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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. II.—4TH YEAR. SYDNEY: SATURDAY, SEPTEMBER 8, 1917. No. 10.

THE CLINICAL TREATMENT OF SYPHILIS IN THE AUSTRALIAN ARMY.[1]

By **H. Hunter Griffith, M.B., Ch.B. (Melb.),**
Medical Officer, Lytton Camp, Queensland;
Captain, Army Medical Corps, Australian Imperial Force.

Introductory.

In selecting the above title for my paper, I would point out that I am not laying claim to the discovery of any new method of treating syphilis, with the probability of ultimate cure, nor do I claim to have evolved a course of treatment which would appreciably hasten that very desirable end. As we all know, or have been taught to believe, that there is no certain cure of that other ubiquitous and chronic inflammatory disease, tuberculosis, so with syphilis, there is no known royal road to a cure.

In this article I wish to state as simply and clearly as possible the rationale of the routine treatment which I have found during the past twelve months to give the best and speediest results in treating syphilis in the Australian Army while in a state of war.

I shall also endeavour to show that this course of treatment should give as reasonable and hopeful a chance of ultimate cure for the patient as any other methods employed, having regard to the necessarily short period during which the patients are allowed to remain in the venereal diseases compounds, in order to secure treatment.

According to the most recent ruling from the Director-General of Medical Services, a soldier is only allowed to remain in a venereal diseases compound for two months' treatment. If at the expiration of that period the desired result has not been attained, then, with the sanction of the Principal Medical Officer of the Military District and the assurance of the Senior Medical Officer of the Compound that further treatment may be of avail, the patient may remain for another period of two months or part thereof. Further extended periods of treatment are obtainable, but are only availed of in exceptional cases.

Confining myself to syphilis, my interpretation of the objects of the venereal diseases compounds is, firstly, to remove all obvious signs of the lesion or lesions, to render the soldier, as far as possible in the time available, non-infective, and hence to remove any chance of his being a menace either to his comrades or to anybody else with whom he may come in contact.

Secondly, the venereal diseases compound serves to put the soldier through such a course of treatment as will give him a reasonable hope of ultimate cure, provided, of course, that he continues his treatment faithfully after being discharged back to the lines as advised.

And lastly, it has the object of procuring the desired results and rendering him in a fit condition for discharge from the compound, to go abroad in as short a period as possible, for from first to last he is a soldier, and as such is a unit in the huge machine of war, the wheels of which must be kept constantly and thoroughly oiled in order to get the most efficient work out of it.

If the syphilologist doing Army work observes the above principles as the basis of his work, then the best thing possible under all the circumstances is being done, both for the soldier himself and for the Empire.

For practical purposes, a patient is considered non-infective and fit for discharge to the line for duty when all obvious signs of his lesion or lesions have disappeared, and, where any cicatrices remain, all signs of induration have disappeared. As a routine measure and a guide as to the result of the course of treatment a negative Wassermann reaction is also considered essential. In view of the limited time during which the patients remain under control at the termination of the course of treatment, this reaction may give on occasion rather conflicting results, and hence may not be of much value as a test.

Before detailing and explaining my methods of treatment, I would state that my work during the past twelve months at the Lytton Compound included the treatment of just under 200 cases of syphilis in its various stages, and that, although certain necessary modifications were made in particular cases, the basis of the routine treatment was, to all intents and purposes, practically the same for all.

Regarding the incidence of syphilis, my figures for the past twelve months show that, out of approximately 1,100 patients admitted to the Compound for treatment, 18% were suffering from syphilis in one stage or another.

Diagnosis.

With regard to the diagnosis of the disease, I have had to depend solely on the macroscopic appearances of the lesions, with, of course, the assistance of the Wassermann reaction. I am indebted to Dr. J. J. Harris, of the Brisbane Laboratory of Microbiology and Pathology, for the results of the blood tests, and I take this opportunity of thanking him for the invaluable assistance he has at all times given me.

Owing to my own microscope going astray, and the fact of good instruments being practically unobtainable, I have not been able to clinch my diagnoses with the aid of microscopical examinations of material from the lesions, but I can safely say that I have only had an isolated case where the clinical

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on August 3, 1917.

diagnosis of the primary lesions was doubtful, and in such a case I worked on the principle that it were better to err on the safe side and treat it as specific. In cases of primary syphilis, as generally recognized by syphilologists, it is of paramount importance to place these cases under treatment at the earliest possible moment, when the chances of a cure are obviously much enhanced, and it does not appear to me altogether unreasonable if one ventures to hope that an early case, in which no signs of a generalization of the infection are manifest, if placed under efficient treatment at the outset, might be cured, or aborted in a comparatively short space of time, even as the disease may be guarded against by suitable measures of prophylaxis. But, even if one should venture to hope thus far, one is certainly not justified in expressing the hope to the patient, as he quite naturally looks on the surgeon's word as infallible, and, should signs of generalization arise after some lapse of time, he would not be grateful to the surgeon for having placed him in such a false position of security. In such cases I would consider it absolutely necessary for the patient to undergo the full course of anti-syphilitic treatment, just as if he had already exhibited signs of a generalized infection, before finally passing him as cured and fit to marry. Therefore, one can see how important it is from the patient's point of view that the earliest possible diagnosis should be made, and in this connexion the microscopical examination is practically essential, in order to corroborate the macroscopical appearances of a lesion.

If the Wassermann reaction be of any value as an aid to diagnosis, and also as a guide to the progress of a case while undergoing a course of treatment, and I believe it is, then one can see how extremely important an early diagnosis must be when the disease is in the primary or local stage, although in such a case as this the Wassermann reaction shows its limitations, for in my experience the blood, provided no anti-syphilitic course of treatment has been initiated, does not give a positive reaction until at least five or six weeks after the appearance of the primary lesion, which would be approximately eight or ten weeks after the inoculation with the *Spirochaeta pallida*. Hence the best prognosis imaginable would be in a case where the positive diagnosis was made within a few days (or at least well within the period during which the disease remains local) of the appearance of the primary lesion, and in which the course of anti-syphilitic treatment was commenced as soon as the positive diagnosis was arrived at. In such an ideal case one could imagine that, with efficient and sufficiently intensive treatment from the outset, the blood would never give a positive reaction to the Wassermann test, indicating either that the treatment had aborted the infection at an early stage, or had at least prevented or delayed generalization.

Regarding the possibility of an early cure in such a case, one does not care to dogmatize, especially on such a short experience as my own, on account of the insidious nature of the disease, its intractibility to treatment once it becomes thoroughly established, and the fact of patients being so hard to keep in touch with and follow up after the completion of their course of treatment.

As in most other things, no method is infallible, and all the means at our disposal for purposes of diagnosis are open to error. The macroscopic appearances of a lesion are not always typical, and quite often are atypical, hence the liability to error in diagnosis on purely naked-eye appearances. Similarly, with regard to the microscopical examination of material from lesions, it is often very hard to demonstrate the presence of the spirochaetes, owing to imperfect methods of staining. Certain obscure factors evidently influence the Wassermann reaction as well, for I have seen a man with unmistakable macroscopical signs of secondary syphilis whose blood, on being submitted to the Wassermann test, gave a negative reaction. Such a case as this will sometimes, within two or three days of a provocative injection of salvarsan or any of its substitutes, give a positive reaction to the Wassermann test. In this case we are dealing with a sensitized serum.

To sum up with regard to the methods of arriving at an accurate and early diagnosis in syphilis, I would point out that in the great majority of cases the clinical features of the primary lesion, together with the points in the history relating to the period of incubation and the development of the lesion, are usually sufficiently typical, and one need not resort to the finer methods of diagnosis, which nevertheless are most invaluable in those cases where a doubt does arise as to the true nature of the lesion, and which should by all means be availed of when possible in such cases. One does not care to commit a patient to the drudgery and mental misery entailed by a long course of anti-syphilitic treatment, even though one errs on the safe side by so doing. But, with the available present-day means for the early and accurate diagnosis of this disease, there is hardly any excuse for neglect to make use of such means as are at our disposal.

A point in the differential diagnosis of primary chancre and soft sore (chancroid) is the rapid response which the latter invariably makes to local treatment with mercurial lotions, ointments and powders, healing usually being complete in three or four days.

The mere fact of the demonstration of the presence of Ducrey's bacillus in the lesion and the failure to demonstrate the presence of spirochaetes is not always pathognomonic of a soft sore, as in many cases, where the lesion macroscopically is undoubtedly specific, it is often very difficult to demonstrate the spirochaetes microscopically, on account of imperfect methods of staining, etc., and quite often the two lesions co-exist.

In order to make as thorough and accurate a diagnosis as possible, one should not depend on any one method of diagnosis, but should make use of every means available, every known factor being taken into consideration in the summing up of the evidence so obtained, as by so doing the chance of an inaccurate diagnosis is reduced to a minimum, and, moreover, the certainty of the diagnosis, whether it be a positive or a negative one, must be

of inestimable value to the patient himself, as his whole future, more or less, depends upon it.

I shall not enter here into the different macroscopic or microscopic appearances of the lesions, as they are rather outside the scope of this paper.

If I have appeared to digress somewhat on the subject of diagnosis, I must plead as my excuse the fact that I wish to make perfectly clear the conditions under which my work has been carried out, and to give some idea of the facilities which were actually available for purposes of diagnosis, apart from the fact that I wish to emphasize strongly the extreme importance and absolute necessity of the earliest possible diagnosis being made, at the same time pointing out the necessary means which should be available to all for so doing.

Routine Treatment.

General.

On admission to the compound, the patient is at once put on the following mixture, which I shall designate for purposes of reference "Mistura Z. Coy.," on account of the fact that soldiers infected with syphilis are grouped into Z. Coy. in all Australian Imperial Force Compounds, whereas the "Neisserian" patients are grouped into A., B. and C. Coys., etc., according to the numbers under treatment.

Mistura Z. Coy.—

Recipe:

Pot. iod.
Sod. iod., *āā.* 0.6
Pot. cit.
Sod. cit., *āā.* 0.6
Glycerin, 3.5
Syr. amantii, 3.5
Aquam, ad 30.0

Misce; *fiat mistura. Signa*: Two tablespoonfuls, to be taken twice a day.

On the first Saturday after admission, and on each subsequent Saturday, up to the time of his discharge from the compound back to the lines, he is given an intramuscular injection of mercury, in either the form of grey oil or Adam's cream (as used by McDonagh), the site chosen for the injection being the gluteal muscles, the buttocks being used alternately. Care must be taken when giving the intramuscular injection to avoid the vicinity of the great sciatic nerve, and when doing a number of patients at one time, to sterilize the needle effectively between each injection.

Grey Oil—

Recipe:

Mercury, 40 grammes
Lanoline, 12 grammes
Vaseline alb., 13 grammes
Oil of vaseline, 35 grammes
0.15 gm. or 0.3 c.cm. (5 minims) contains 0.06 gm. (1 grain) of mercury

Adam's Cream—

Recipe:

Mercury, 20 parts
Anhydrous lanoline, 30 parts
Chlorbutol, 2 parts
All equal parts by weight
Liquid paraffin to 100 by measure

About three or four days after admission, this period being allowed to elapse in order to give "Mistura Z. Coy." time in which to commence its action, the patient is given an intravenous injection of arsenobenzol (Billon), the full dose of gm. 0.6 being usually given. Owing to shortages I have had occasionally to cut the dose down to gm. 0.3, in order that available supplies might tide over the period until further were obtainable. I have also had, through similar causes, on occasion to use other substitutes, such as galyl, kharsivan and novarsenobenzol, but of all the substitutes I prefer arsenobenzol (Billon).

Furthermore, I always endeavour to give a full dose at the initial injection, in the belief that the first blow to be dealt at the spirochaetes should be a good solid one, even should subsequent circumstances demand that the oncoming injections be of a smaller dosage.

Formerly, by way of preparing the patients for injection, I put them to bed in the ward on the night prior to, and right up to the time for, receiving their injections, but I now find it unnecessary to do so, owing to the improvements in my methods of treatment.

The patient is given 0.18 gm. of calomel on the night preceding the injection, and a dose of "H.D.A." first thing on the following morning, and he is told to have as light a breakfast as possible, a cup of tea and some bread and butter being advised. He is brought into the operating theatre, given his injection of arseno-benzol, and then sent to bed in the ward.

By tea time (5.30 p.m.), provided he has managed to dodge any severe reaction, he feels rather hungry, and is given some hot soup, bread and butter or jam, and a cup of tea. If he feels all right, and wishes to do so, he may go back to his own hut.

By the next morning the ward is invariably clear of all "606" patients, and they are back again on their "fatigue" duties.

Seven days later the patient is given another full dose of arseno-benzol intravenously, provided, of course, that the first dose has failed to disclose the possibility of any idiosyncrasy for arsenic, as evidenced by the severity of the reaction and the time taken to recover from it. Two full doses of arseno-benzol having been given within seven days, a somewhat longer period of time is allowed to elapse before submitting the patient to the third dose. Ten days is usually considered sufficient time, or fourteen days at the outside.

The patient is only submitted to further injections of arseno-benzol if, on examination, any obvious signs of his infection be still present. At the end of the eighth or ninth week, the patient, having had at least three intravenous injections of arseno-benzol and eight or nine intramuscular injections of mercury, as well as suitable local treatment where indicated, has a sample of his blood submitted to the Wassermann reaction.

Should the Wassermann reaction be negative, the patient is discharged from the "Compound Coy." back to the lines as "non-infective" and "fit for

duty," prior to which he is given a few straight words of advice as to the absolute necessity for him to continue his treatment, as detailed on the "form of treatment" with which I present each syphilitic patient on his discharge, and he is also made to understand that he is not yet cured, but that there is every hope of him attaining that very desirable result, if he faithfully follows out the course of treatment which I have outlined for him, all the drugs and preparations mentioned on the "form of treatment" being obtainable without expense to himself while in the Australian Imperial Force and wherever he happens to be posted for military duty.

Local Treatment.

(*a*) Primary Chancre.—The chancre being the initial focus, it is of prime importance to attack and expunge it as soon as possible. If on admission a patient is found to have a primary sore that is at all removable by surgical means, I never hesitate to do so. In one or two cases I have had to persuade patients to undergo operative measures, but, as a rule, I find that they will allow one to do anything at all within reason for them, provided that one can satisfy them that it is for their ultimate benefit, and that the operation advised will assist very materially in the cure. Even when secondary signs were present, as well as the primary sore on the prepuce, I have circumcised the patient, under the strong belief that the cicatrix, which would remain when the chancre had healed, might still be a protection and hiding-place for the spirochaetes. But in a case where a patient came under treatment very soon after the appearance of the chancre, and it was excisable, either by circumcision where the sore was preputial, or by excision where the sore was in the body of the penis, I had no hesitation in doing so, and I feel confident that such operative treatment gave the patients a better "kick-off," so to speak, in their course of anti-syphilitic treatment, than if I had not resorted to surgical measures.

With regard to excision of chancres in the body of the penis, where the induration shows a tendency to be marked and deep-seated, I consider such treatment only advisable in the very earliest stages, on account of the possibility of a recrudescence of the chancre on a much larger scale in the wound left behind.

Unless one can be tolerably certain that the whole scope of the chancre can be excised, it is advisable to leave it alone surgically. In one case in which I excised a large papulo-ulcerative chancre with very little induration present on the dorsum of the penis, the whole wound broke down a few days later and became chancrous, only with a much larger base and induration much more marked than prior to the excision. But in those cases where the chancre is confined to the prepuce alone, I do most firmly believe in immediate circumcision, and I am sure that my results will justify my treatment. As far as they have gone, they have apparently assisted in preventing any manifest generalization of the disease.

In my series of syphilitic cases I have resorted to circumcision in over 50% of the total, and in only one case did the circumscribed area of the penis break down and become chancrous, and in this case the primary lesion was not confined to the prepuce alone, but extended to the frænum and corona. On the other hand, where I had resorted to circumcision on account of complications, such as balanitis, phimosis and paraphimosis, and discovered during the operation that the corona and parts of the penis remote from the prepuce were involved in the primary lesion or lesions, the chancres went on with the process of healing, undisturbed by the necessary surgical interference.

Where surgical measures are contra-indicated, as, for instance, when the lesion is confined to the parts remote from the prepuce, or is too well established or deep-seated to justify the use of the scalpel, the primary lesion is best treated by washing twice daily with *lotio nigra* and afterwards dusting with calomel powder, or smearing over with 20% calomel ointment.

When the chancre has healed and the cicatrix still shows signs of induration, I find that constant daily massage with 20% calomel ointment gives the most satisfactory results, with regard to removing any signs of induration that may remain.

In certain cases, where induration was well marked and deep seated and the chancre was phagedænic, I found it advisable to confine the local treatment to frequent washings with warm lotions of a concentrated solution of soluble citrates and to applications of hot soluble citrate foments three times daily. This treatment, in combination with the general treatment, gave most excellent results, both with regard to stimulating repair and the healing process in the damaged tissues, as well as preventing the aftermath of induration in the resulting cicatrices.

(*b*) Bubonocele.—With the advent of salvarsan and all its substitutes and the improved methods of present-day treatment generally, the surgical interference with bubos has become more and more unnecessary. The swollen, inflamed, tender and fluctuant glands in the inguinal region resolve very quickly, as a rule, after intravenous arsenical medication, combined with the action of "Mixture Z. Coy.," the citrates and iodides of which mixture appear to be a very real factor in the satisfactory results obtained.

I regard surgical interference as the last means to be adopted, after all other measures have failed. As a rule, hot foments, applied frequently, every four hours, combined with a good bowel clean out, and with regular action to follow, are measures that will give the desired result, although the intravenous arsenical medication is an important factor, and certainly accelerates the resolution in such cases.

Surgical interference should only be resorted to when the abscess is pointing, and appears about to burst through the skin surface. When such a position does arise, I would strongly advise a small incision and only light curettage of the abscess cavity, on account of the very real possibility of infecting neighbouring contiguous glands. The cavity should be swabbed out with a weak antiseptic, such as peroxide of hydrogen (1 in 4), or a weak dilution of tincture of iodine, and then lightly plugged with

cyanide gauze, or preferably have hot citrate foments applied every four hours. Provided the wound does not break down and become chancroid, it will soon granulate and healing should be complete in seven or eight days. Should it break down and become chancroid, after operative interference or otherwise, large internal doses of the soluble citrates with iodides in mixture, combined with local measures, such as hot citrate foments, form the treatment which I have found to give satisfactory results.

(*c*) Mucous Patches and Oral Ulcerations.—These conditions are best treated locally by the application once daily of a solution of 10% chromic acid. Healing takes place rapidly, and, as a rule, is complete in three or four days.

(*d*) Rupia.—This manifestation of the syphilitic process responds very well to the combined action of the arseno-benzol and "Mistura Z. Coy." Some cases where ulcers are deep seated with induration well marked, and large, open, sloughing surfaces, are very resistant to the ordinary anti-syphilitic medication, and in such cases it is necessary to use other treatment, in order to assist the action of the specific medication.

In these cases treatment internally with large, repeated doses of the soluble citrates, combined with local treatment in the form of warm citrate lotions, has given results which point to the citrates being almost specific in their action in such cases, and in a case which I shall quote further on, the patient certainly owes his life to the timely intervention of these salts in his treatment.

(To be continued.)

THE DIAGNOSIS, PROPHYLAXIS AND TREATMENT OF PLUMBIC OCULAR NEURITIS AMONGST QUEENSLAND CHILDREN.[1]

By **J. Lockhart Gibson, M.D., Edin., M.R.C.S., Eng.,**
Honorary Ophthalmic Surgeon, Brisbane Hospital for Sick Children.

At the risk of hearing that I have been again accused of "making the most of the Queensland lead cases," I am compelled to return to the charge. If I can be either the direct or indirect means of reducing the number of cases of entirely preventable blindness, I need not worry at having unscientific motives attributed to me by some.

As I have always urged, the difficulty of diagnosing these cases when they occur singly is very great. There is so little to suggest lead as a cause, unless the conditions are appreciated under which lead poisoning, in climates such as Queensland, is likely to occur in children, and the ocular cases do not exhibit the wrist and foot drop symptoms of the ordinary lead cases to help the diagnosis. I believe that, as a result of observing a great number of patients in all stages of the complaint, at least six or eight each year, I can lay down reasons for a provisional diagnosis, and a diagnosis which will help my colleagues in Queensland and in other parts of Australia, and perhaps elsewhere to recognize these cases, even when they occur singly, and help them also to prevent them from becoming blind, and to institute prophylaxis.

In writing this paper I am, I know, plagiarizing on myself. But I may tell you that I have personal evidence of one of these cases being diagnosed in Sydney at one hospital as tubercular meningitis, and at another as cerebral tumour, and being seen by one of Sydney's best physicians, and by one of its best opthalmic surgeons and without lead being considered as a possible cause. That I saw a case in Melbourne who had the advantage of the best medical and ophthalmic skill there, which suggested to me lead as one of its possible causes, without, indeed, my having an opportunity of confirming this suspicion, and I was assured that lead had not been thought of until I asked if it had been excluded as a possible cause. Tubercle and syphilis had been excluded, and the child was subjected to decompression by trephining. In conversation with the physician, who saw it, I was asked on what I based my diagnosis in my cases. A few words were sufficient to satisfy him that I had reason for the faith that was in me.

The Sydney case I saw at our Children's Hospital after its return with double post neuritic atrophy, and with his better eye counting fingers at one yard only. He has kept well, except for his loss of sight. This boy had gone to Sydney by steamer with his mother for a holiday. His mother was confined to her bunk all the way. The ship was being painted, and the boy roamed about alone. He bit his nails, and possibly had also ingested lead from verandah rails before leaving Brisbane. After arrival in Sydney he developed his attack.

I am introducing these two cases because I know that the two Sydney and two Melbourne colleagues are as eager in the search after truth as I could possibly be myself, and would therefore be quite satisfied with my inclusion of them. They demonstrate also the diagnosis, failing lead, which I would myself make in the cases under discussion.

The recent leader in *The Medical Journal of Australia* on plumbic ocular neuritis, with its more than sceptical attitude to some of my conclusions, made me feel that I should bring the matter up again, and, as if to compel me to do so, on Monday of this week, a boy of six years was brought to me at the Children's Hospital who would serve alone as a text and an excuse for my paper to-night.

I have brought him here and have dilated his pupils, so that those not accustomed to use the direct ophthalmoscope may recognize the post neuritic atrophy in his discs.

This boy's history is instructive, and I felt safe after hearing it and before examining his eyes, to say to Dr. Alexa Maclean "we will find here post neuritic atrophy due to lead."

During January and February of this year, in a town some 150 miles from Brisbane, he was confined to bed with what was called gastritis. He had colic, constipation and vomited his food. He was also very pale, and squinted. The squint persisted until he recovered, and then disappeared; but he has been

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on August 3, 1917.

short-sighted since. There is now no squint. I found partial post neuritic atrophy of his right disc, and practically complete post neuritic atrophy of his left disc. I found that he bites his nails and puts his fingers and other things constantly in his mouth. I could find no blue line on his gums, and we have to remember that blue lines on the gums are not always present to help the diagnosis. Powdery paint was available on the verandah rails. On further examination I found that his right eye sees $^6/_{18}$; more than I would have expected from the appearance of its disc. No doubt the fields are contracted. His left eye fails to count fingers. This case, I say, makes me anxious to make as widely known as possible the reasons for diagnosing lead, and may even excuse a little righteous indignation at the scepticism displayed after all these years of trying to drive the diagnosis home.

If this boy had been treated early his eyesight would have been preserved. As it is, he has lost one eye, and no doubt the partial sight retained in the other he owes to the fact that he was ill enough to be confined to bed, and was therefore removed from the further ingestion of lead.

The great safeguard to sight in these cases is the paralytic squint. The paralysis nearly always attacks the external recti, most often one external rectus. It is then easily diagnosed as a paralytic and not a hypermetropic squint. If both external recti are affected, and each only paresed, the diagnosis of paralytic squint is much less easy.

A simple, early case comes to your consulting-room with the history of a squint for a few days or a week or more, not necessarily with any complaint of illness, of colic or of constipation, nor of defective sight, merely a recent squint which you find to be paralytic. You examine his eyes and find perhaps five or six dioptres of swelling in each disc. You may or may not find a blue line on the gums. You will find that the child bites his nails, as a rule, and that the exceptions suck their fingers. You will find that powdery paint is available, either on his own verandah rails or on those of his playmates' houses, or at his school. An analysis of the urine is too complicated to be taken as routine practice. I had this done by our Government Analyst in many cases, when I first recognized them to be due to lead. It has never appeared to me to be of importance to examine for lead in the fæces, because the presence of lead in the fæces, if insoluble, would not necessarily mean that any of it had been absorbed into the blood.

A lumbar puncture is done the same day, and results in anything from 10.5 or 13 c.cm. to 57 c.cm. (3 iii. or 3 iv. to 3 xvi.) of clear fluid under considerable, sometimes under great, pressure. Since adopting this as routine practice (I adopted it long before for cases with any lead encephalopathy), it has been possible to be assured of a good result if the cases are obtained before the papillœdema has lasted for long. After three or four weeks the outlook is apt to be doubtful.

A recent paralytic squint, then, in a child below eight years should make a doctor suspect lead if the child has no increase of temperature. If he cannot satisfy himself of the fundus conditions, and cannot obtain the help of one able to do this, he should do a lumbar puncture at once. Keep the child in bed and away from painted surfaces, and put him on salines, dilute sulphuric acid, and, after some days, upon iodide of potassium in 0.3 gm. (5 grain) doses. At the Children's Hospital we are careful to withhold iodide of potash at first, for fear that it may increase the solubility of the lead in the intestinal canal and elsewhere, and temporarily increase the poisoning.

A more advanced case will have colic, constipation, perhaps vomiting, and they are often called gastritis. The paralytic squint should lead to suspicion. Again, other cases, instead of having gastric symptoms, or, in addition, have muscular pains, and are called cases of rheumatism.

To emphasize again the difficulty of diagnosing them. One such case was treated as rheumatism, and kept in bed for several weeks by a country practitioner, who had been one of our best house surgeons at the Children's Hospital, and who had been taught to appreciate cases of plumbic ocular neuritis. Probably no lead patient admitted had had similar pains during his term of office, and they put him off his guard. The patient was then sent to me with advanced ocular neuritis and some retinitis between the disc and the macula, and was barely able to count fingers. However, the usual treatment resulted in $^6/_9$ of vision in each eye, which was much more than I expected at my first examination. This child has kept well. Confinement to bed saved her eyesight, because it prevented her from getting more of the poison off the verandah rails.

Still more advanced cases have symptoms suggesting meningitis, no doubt due to increased intracranial tension; they have retracted heads, and scream with pain when their heads are moved. The very worst of them have complete *ophthalmoplegia externa* and some *ophthalmoplegia interna* also. When so severe as this, the outlook for sight is very unhopeful. The condition means that the acute poisoning has been of some weeks' duration, and optic atrophy is therefore apt to result.

I want to insist that these cases of children, all below the age of eight years, form a group of mild and severe plumbic ocular neuritis cases which were undescribed as due to lead until I described them. I am not urging this for my own credit, but because it may help others to accept what the cases have taught me, and act upon the teaching. I believe that isolated cases are met with in all parts of the world, and are at times recorded as unexplained cases of optic atrophy.

The Source of the Lead.

It was from 1892 to 1904 a reproach to us in Brisbane that we were, when questioned as to the source of the poison, unable to answer. Jeffries Turner and I, and later our colleagues at the Children's Hospital, recognized the first wrist and foot drop cases to be due to lead, and in 1897 I had recognized the ocular cases to be due to lead, and still we could not answer this question. Water from galvanized iron tanks was excluded first by the fact that careful

analysis failed to find any lead in any of it. And later more definitely excluded by learning the fact that the presence of zinc in tank water causes the deposit of any lead in an insoluble form. Zinc is always present in such tank water. All our analyses were personally conducted by the Government Analyst, Mr. J. Brownlie Henderson, F.C.S., a recognized first-class chemist, and with extreme care regarding re-agents and vessels. When I said to Jeffries Turner, I think I can prove that the source of the lead is painted railings, his answer was: "I hope you can, but do not think you will be able to do so." When I marshalled my proofs he accepted them at once, and so did also those who heard my paper.

A young medical friend asked me the other day why there was such septicism regarding the source of the lead. I could only say, Because the explanation given appears too simple to be true. My own satisfaction at having, as I believe, proved verandah railings to be the source is severely tempered by shame at my want of alertness in taking so long to come to so obvious a conclusion. It was not sufficient to suggest painted surfaces. Possibly they were suggested before. It was necessary also to make out a fair case of proof. It occurred in this way. I had four fairly severe cases of plumbic ocular neuritis at the Children's Hospital. I was worrying as to how they got the lead, while loafing on a Sunday afternoon on my verandah. Suddenly I went for a piece of linen cloth and rubbed off some of the powdery white paint from my verandah rails. This I took to the Government Analyst, with the question, "Is it lead in a soluble form?" The answer came, "A soluble carbonate of lead."

My next step was prompted by the mother of one of the four ocular neuritis cases. She had another child, who, though without symptoms, had a marked blue line on his gums. I told her they got the lead from verandah rails, and carried it to their mouths by their fingers. She immediately said: "And those are the only two of my children who bite their nails." I promptly examined the nails of all the four patients in hospital. Three of the four bit their nails. The other, a child of two, sucked his fingers. I found out later that he had spent his days, prior to admission, chiefly crawling on a verandah floor which was painted, a most unusual circumstance. The paint came off very easily as powder, which proved to be a soluble carbonate of lead.

I visited the homes of these children, taking the Government Analyst with me, and obtained rubbings from the walls of the rooms and from the railings of the verandahs. The walls of the rooms yielded a little lead to hard rubbing, the verandah railings any quantity, easily. For a year after the railings are painted they are pretty safe; after that the sun and weather cause the paint to powder. Only occasionally have we had cases from freshly-painted houses. No doubt because care is taken to avoid the paint while it is wet.

I then caused a "round robin" to be sent to the parents of past lead cases, and found that they practically all bit their nails. The exceptions sucked their fingers. I further found that a much larger proportion of cases was admitted during the warm months, when the hands of the children were moist with sweat, and consequently more liable to carry the powdery paint to their mouths. And, further, that a larger proportion of girls than boys was affected, and one would expect more girls to play on verandahs and more boys to play outside. Further still, we have since found that recurrent attacks of lead poisoning can be prevented by warning the parents of the source of the poison, and where possible by getting them to replace lead paint by the better zinc white paint on verandah rails and parts within reach of young children.

One colleague in Brisbane, not connected with the Children's Hospital, complained to me that in the case of a child who had come under his notice, this warning at the Children's Hospital had not been given. No doubt a busy resident surgeon may at times fail in this duty, and perhaps with frequent changes of the resident staff some may not have fully learnt to appreciate the necessity.

Regarding treatment, it has been unavoidably incorporated in what I have already said. Since adopting immediate lumbar puncture as routine treatment, even in mild cases, and repeating it, as a rule, in three days, we can be assured of good results in the cases which are secured early.

It appears to me that the diagnosis, treatment and means of prophylaxis are sufficiently demonstrated by what I have said. It is at least up to those who doubt my conclusions to furnish a better explanation of the facts upon which a diagnosis is based, and to suggest a more possible source for the poison. Until they do this let me beg of them to accept, provisionally if they like, the conclusions I am urging, because upon their acceptance the sight of not a few children will depend.

Why our Governments cannot be induced to make it penal to use lead paint for surfaces within the reach of children is a circumstance which annoys one greatly. Zinc white is a much better paint, and lasts better, but it is more expensive. Painters will not use it if they can help; they will adulterate it with lead unless they are watched.

One further word as to the ocular cases. They do not have increase of temperature, and they do not have albumin in their urine; they practically never exhibit wrist and foot drop. The fundus appearances, as a rule, do not at all support albuminuric retinitis. In some of the severer cases, where there is exudation into the retina, as well as round the discs, they do suggest albuminuric retinitis, but with an amount of papillœdema, which is not seen in albuminuric retinitis. During the recovery of such cases, *i.e.*, during the absorption of the papillœdema, the resemblance to albuminuric retinitis is greater.

The ophthalmoscopic appearances suggest cerebral tumour as an alternative and this must always be borne in mind. I have myself had a few cases of gummatous meningitis which resembled the lead cases very markedly. I was sufficiently deceived in one case, years ago, in spite of some convulsions complicating a case of papillœdema with paralysis of an external rectus. I treated it as a lead case for three months; far too long. It remained *in statu quo*,

and the sight did not decline, but remained at $^6/_9$ for one eye $^6/_{24}$ for the other. Perhaps the 0.3 gm. (5 grain) doses of iodide of potash thrice daily held it in abeyance. I then put the child on inunction, and in a month the whole had cleared up, though the worse eye did not recover more than $^6/_{18}$ of vision.

If a second lumbar puncture three or four days after the first does not show diminished tension, and very especially if a third lumbar puncture does not yield no increased tension, lead as a cause should be doubted.

Why do more cases occur in Queensland than in the other States? Because in Queensland practically all our houses or cottages are wooden, and are perched up on stumps, verandah rails are therefore necessary, and, as a rule, they are painted, and with lead paint. I have observed in the southern States that the houses are not built on stumps, and that verandah railings are therefore not necessary and not employed. Perhaps also the more northerly climate leads to more rapid powdering of the exposed painted surfaces.

At the 1911 Congress in Sydney I read a paper urging the importance of lumbar puncture in all such ocular cases, and suggested that we may have been in error in the past in attributing the paralysis in these and other cases of lead to peripheral neuritis instead of to intracranial and intraspinal pressure. My physician friends will not hear of this, however. Still, I asked my colleagues at the Children's Hospital, and the residents, to do lumbar punctures also to the other acute lead cases as well as to the ocular ones, prophesying that increased tension of cerebro-spinal fluid would be found. This prophecy has been fulfilled, and at present in the hospital all lead cases are being treated by lumbar puncture as routine practice on admission, and the rule is to find increased cerebro-spinal tension. This observation has still more inclined me to the belief that in increased cerebro-spinal tension we have an explanation of the different forms of lead palsy, as well as of most of the other symptoms. It could be made to explain why in one case only ocular symptoms and head symptoms occur, and in another case only arm and leg symptoms. Could we not also explain the action of the lead circulating in the blood as one of irritation to the choroid plexus, with a resulting increase in the secretion of cerebro-spinal fluid. Professor Dixon, of Cambridge and London Universities, and Professor Halliburton have demonstrated the part played by the choroid plexus on the secretion of cerebro-spinal fluid.

Reports of Cases.

NOTES ON A CASE OF TETANIA PARATHYREOPRIVA COMPLICATING PREGNANCY.

By J. D. Herlihy, M.B., Ch.M. (Syd.),
Leichhardt, Sydney.

The following seems interesting for several reasons, but especially so as tetany following goitre operations is nowadays quite uncommon since the functions of the parathyroids have been recognized. In this case, however, the possibility is that the circulation of these glands at least was interfered with, even if their complete extirpation was not accidentally performed. The extra strain thrown on the system by pregnancy must be regarded as the indirect cause of the acute attack.

Mrs. M., aged 22 years, was operated upon in Sydney five years previously for "goitre." Since the operation she has enjoyed good health, with the exception of occasional "fainting turns." Her relatives described the "turns," but the results of their observations suggested nothing more serious than a fainting or possibly a mild hystero-epileptiform attack. She herself remembered nothing about them, except what her friends told her. (In the light of later events, their memory, however, recalled further facts, which showed that each "turn" was indeed a slight tetany spasm.)

When first seen by me, she was six months pregnant with her first child. She looked well, and her only worry at this time was constipation. She had had a few "turns" since conception; but examination failed to reveal anything more than a slight tachycardia. The urine was tested regularly each month until term, and was always free of albumin, etc. Labour set in on June 8, 1917. No abnormality was observed (the case was a simple left occipito-anterior presentation) until the head descended to the perineum. The first convulsion then occurred, and was a typical tetany seizure. It was a bilateral, symmetrical tonic spasm, most marked in the upper extremities, the fingers of both hands assuming the "accoucheur's hand" type, with wrist flexed and arms folded on the chest. The ankles were dorsiflexed, and the toes strongly flexed. Slapping over the course of the facial nerve produced a tonic contraction of the facial muscles, marked trismus resulting (Chvostek's phenomenon). Firm pressure on the upper arm just above the elbow produced a spasm at will, as recorded by Trousseau.

The attacks varied in duration, the worst lasting about two minutes. The colour during most of the spasms remained good, an occasional one producing slight cyanosis. The teeth were clenched, there was slight frothing at the mouth, both the corneal and conjunctival reflexes were absent, and the patient could not be roused between the spasms. The pulse-rate varied between 72 and 80 per minute, and was of full, bounding type. There was profuse perspiration, and the circulation in hands and feet remained good. Chloroform was administered, and labour terminated normally without instruments. The placenta separated in the usual time and without recurrence of spasms.

One hour after the birth another seizure occurred, followed by others at varying intervals during the next 12 hours. A catheter specimen of urine at this time had a heavy sediment of pink urates, and revealed albumin.

The patient was passing urine freely and involuntarily, in addition to copious perspiration. Her blood pressure, measured by sphygmomanometer, was not raised. It was impossible as yet to get the patient to take anything by mouth.

The following 12 hours produced nearly 40 spasms of varying intensity, her condition remaining much the same as before, except that she began to take fluids with difficulty.

A second catheter specimen of urine showed urates, and only a slight cloud of albumin. A smart purge was given, and thyroid extract, 0.3 gm. (grs. v.), administered every six hours from the time she began to swallow.

On the third day the spasms were markedly less in number and severity, and she could be roused by loudly calling her name.

No fits were recorded on the fourth day, when the patient spoke for the first time since the onset of the attack. She complained of severe frontal headache.

From now on till the sixth day she had hallucinations, and was with difficulty restrained in bed. On the sixth her mental condition was more settled, but her memory was almost a complete blank. She had no recollection of the birth, of her marriage, where she lived, etc. She continued to improve (no spasms since the third day) and by the fourteenth day the headache had gone.

To-day she speaks and acts rationally; her memory, except about her recent illness and the birth, is good, and she takes a lively motherly interest in her child. The breasts at no time showed any sign of activity, the fundus was well

within the pelvis by the fourteenth day, and her temperature once was 37.2° C.

She now (August 1) has an occasional headache in the morning, but otherwise feels well and strong. She is now taking 0.15 gm. (grs. ii½) of the thyroid twice a day.

Reviews.

THE INTERNAL SECRETIONS.

The translation[1] by Dr. M. Fishberg of the monograph on the physiology of the internal secretions by Professor E. Gley makes available to English readers this work, which has attracted so much attention from its attempt to render more precise the notion of the internal secretion of the glandular tissues which distribute the products of their activities to the animal organism through the agency of the blood stream. The book is divided into three chapters. In the first chapter an account is given of the historical development of the conception of internal secretions, in the second chapter the distinctive characters of the internal secretory glands are described, while the third chapter discusses the functions of these glands in health and disease.

The doctrine of the internal secretions is connected with the names of Claude Bernard and Brown-Séquard. Two French physicians, Theophile Bordeu in 1775 and Legallois in 1801, assumed that certain organs discharged substances into the blood, though they offered no proofs of their assertions. Berthold in 1849 transplanted the testicles in cocks and observed that the animals retained their male characters in voice, reproductive instinct, fighting spirit and growth of comb and wattles. He inferred that the testicles maintained their effect on the entire organism through the blood. Claude Bernard demonstrated the production of grape sugar by the liver and the passage of this sugar into the blood of the hepatic veins and thence into the general circulation. He further pointed out the distinction between the external secretion of glands by means of ducts and the internal secretion of ductless glands. He mentions the spleen, thyroid and adrenals as glands of exclusively internal secretion. He seems to have considered these glands as concerned with the elaboration of the blood. To him we owe the term, internal secretion. Brown-Séquard retained the conception of Bernard of the secretion into the blood of substances necessary to its constitution, but he added the notion that organs secrete into the blood principles which have the property of acting, in an elective manner, on neighbouring and distant organs. He describes how these particular soluble products penetrate into the blood and influence through the intermediary action of the liquid, the other cells of the anatomical elements of the organism, with the result that the various cells of the economy form a solidarity, accomplished by a mechanism other than the nervous system.

Three conditions are necessary to determine an internal secretion. The first is of an histological nature. The cells of the gland must present the characteristics of granular elements, and these elements must lie in relation to efferent blood-vessels. The second involves chemical considerations. The cells, the venous blood from the gland or the efferent lymph must yield a specific chemical compound. The third is of a physiological order. The venous blood must have a physiological action upon some tissue or organ. These conditions are completely satisfied in regard to adrenalin and the suprarenal capsules. In other cases we believe in the existence of an internal secretion, though the logical proof is lacking. No one contests the position of the thyroid glands among the endocrine organs, though there has not yet been discovered any specific chemical substance or any definite physiological property in the venous blood from the thyroid gland. The effects of extirpation of the thyroid gland are so specific and the action of thyroid extract in counterbalancing the harmful effects of deficiency so characteristic that it is admitted that substances in the thyroid extract have an elective influence upon some internal mechanism. At present the demonstration of the physiological properties of a specific chemical product, transferred in a more or less durable form to the blood, is considered the most important proof of an internal secretion. This proof has been supplied in the case of the manufacture of diastase by the spleen, for the oxidase ferment of the pancreas concerned in the combustion of glucose, for adrenalin and for the anticoagulative substance made in the liver. In the case of secretin there has been no demonstration that it is formed *intra vitam* and discharged into the circulating blood.

The author sounds a warning against postulating the existence of an internal secretion from observations on the action of extract of an organ. The results obtained in this way must be supported by concordant effects of extirpation, and by the success of substitution therapy. When the facts ascertained by these different methods of study are in accord, the organ may be assigned to the endocrine group. In this way the thyroid and the interstitial germinal glands are identified as possessed of internal secretions. The author also points out that care must be exercised in drawing conclusions from the administration of organic extracts. There is no proof that substances present in the extract exist in the living gland. There is no evidence that the substances present in the gland pass regularly into the blood. An extract is a conglomeration of substances, while, as far as our present knowledge goes, a sole product of secretion exercises the specific functions of the internal secretion of each group of cells.

The author classifies the products of internal secretion into four categories. Nutritive bodies, as glucose, fats and proteins, serve for the production of energy and the repair of tissues. Morphogenetic bodies or harmozones serve as tissue builders in the course of ontogenetic development by catalysis, by a process analagous to chemotaxis and by fixation of mineral matters. Hormones serve to excite chemical and physiological phenomena as the secretion of pancreatic juice and milk. Parhormones serve to convert toxic substances into inert bodies, as ammonia into urea and phenol into phenyl-sulphates. The endocrine glands are concerned with some of these products. The nutritive bodies enter the blood in large quantities, while the morphogenetic bodies, formed in the endocrine glands, are only present in minute amount. Hormones and parhormones are specific in their origin, action and function. The author concludes the discussion of the characters of endocrine glands with a table setting forth the endocrine organs, the chemical nature of the secretion, the physiological action of the secreted product, the correlation established by the secretion and the diseases associated with pathological changes in the organ.

In describing the normal activities of the internal secretory glands the author discusses the reciprocal humoral correlations established through the internal secretions. He deals with the relations between the adrenals and the pancreas, between the thyroid and the suprarenal capsules, between the thyroid and the pancreas and between the thyroid and the gonads. He examines the evidence in support of the contention that the internal secretions are controlled by the nervous system in the same way as the external secretions of glands provided with ducts. In disease hypersecretion and hyposecretion of the specific product may be brought about. The translation is usually clear, though there are a number of sentences which lack the clarity of the original. This book should be studied by every person interested in organotherapy.

[1] The Internal Secretions, Their Physiology and Application to Pathology, by E. Gley, M.D.; Translated from the French and Edited by M. Fishberg, M.D.; 1917. New York: Paul B. Hoeber; Demy 8vo., pp. 241. Price, 8s. 6d. net.

GENERAL MEDICINE.

The Practical Medicine series, 1917, comprises ten volumes on the year's progress in medicine and surgery. The first volume, the only one before us, is on General Medicine.[1] The table of contents includes research work, infectious diseases, diseases of the chest, diseases of the heart, diseases of the blood vessels, diseases of the blood and blood-making organs, diseases of the ductless glands, diseases of metabolism, diseases of the kidneys, and poisoning. The plan adopted is to give a resumé of the more important medical articles appearing during the year, and

[1] Practical Medicine Series: Volume I., General Medicine, edited by Frank Billings, M.S., M.D., assisted by Burrell O. Raulston, A.B., M.D.; 1917 edition. Chicago: The Year Book Publishers. Melbourne: Stirling & Co. Crown 8vo., pp. 383. Price, 7s.

a synopsis of important cases that have been reported. Many of the articles reviewed have a relation to the war, such as those on the soldier's heart, trench fever and trench nephritis.

The subjects have been well handled, and there is much of practical and academic interest in the volume.

WAR-TIME PROFITS TAX ASSESSMENT BILL.

During the Committee stage of the War-Time Profits Tax Assessment Bill on August 30, 1917, the Federal Treasurer stated that, after further consideration, the Government had decided not to proceed with the amendment to delete the paragraph exempting the professions from the taxation. He admitted that by rendering members of the profession liable to this taxation, great hardship would be inflicted on many young professional men. He therefore proposed to leave the original exemption in the Bill, just as it was in the measure introduced by Mr. Higgs and as it was in the English Act.

COMPULSORY VACCINATION ABOLITION BILL.

The Bill for the abolition of compulsory vaccination, which Mr. A. R. Outtrim introduces with laudable regularity and pertinacity into the Legislative Assembly of Victoria, reached the Committee stage, from which it will not emerge. There was some discussion on August 23, 1917, in the course of which the Minister of Health spoke strongly against the main clause of the Bill. He suggested that progress should be reported, and the House agreed to put the Bill on one side.

AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

We regret to have to report that only one contribution to the Australian Army Medical Corps Comforts Fund has been received since we went to press last week. It has been suggested to us that battalion or units funds are unnecessary, in view of the fact that the War Chest Fund and the Red Cross Society look after the comforts of the men at the front. While the value of these two magnificent organizations cannot be overrated, we have ample evidence that the unit funds provide men on active service with comforts which they appreciate highly, and which they would not obtain, were these Depôts to cease working. In asking for more contributions, we are pleading rather for the individual member of the Australian Army Medical Corps than for the Army as a whole.

	£	s.	d.
Amount previously acknowledged	39	13	0
Dr. Fred. G. Failes (Coonabarabran, N.S.W.)	1	1	0

Public Health.

NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight ending August 25, 1917:—

	Metropolitan Combined District. Cs.	Dths.	Hunter River Combined District. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever ..	9	0	0	0	3	0	12	0
Scarlatina	62	0	3	0	30	1	95	1
Diphtheria	68	1	15	0	61	1	144	2
C'bro-Sp'l Menin.	3	0	0	1	2	0	5	1
*Pul. Tuberculosis	37	23	3	0	0	2	40	25

* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending August 26, 1917:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	40	1	24	0	64	1
Scarlatina	20	0	10	0	30	0
Enteric Fever..	0	1	2	0	2	1
Pulmonary Tuberculosis	19	6	7	5	26	11
C'bro-Spinal Meningitis	1	—	2	—	3	—

QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending August 25, 1917:—

Disease.	No. of Cases.
Erysipelas	5
Diphtheria	34
Pulmonary Tuberculosis	8
Scarlatina	8
Cerebro-Spinal Meningitis	1
Enteric Fever..	2
Malaria	6
Ankylostomiasis	1

SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, for the fortnight ending August 18, 1917:—

	Adelaide. Cs.	Dths.	Rest of State. Cs.	Dths.	Totals. Cs.	Dths.
Diphtheria	10	3	43	1	53	4
Pulmonary Tuberculosis	5	7	28	8	33	15
Pertussis	1	0	17	0	18	0
Morbilli	2	0	4	0	6	0
Scarlatina	0	0	11	0	11	0
Puerperal Fever	0	1	2	0	2	1
C'bro-Spinal Meningitis	0	0	1	2	1	2
Erysipelas	0	1	3	1	3	2
Favus..	0	0	11	0	11	0

WESTERN AUSTRALIA.

The following notifications have been received by the Board of Public Health, Western Australia, during the week ending August 11, 1917:—

	Metropolitan. Cases.	Rest of State. Cases.	Totals. Cases.
Enteric Fever..	1	0	1
Diphtheria	7	3	10
Scarlatina	5	0	5
Pulmonary Tuberculosis	3	4	7
Pyæmia	0	1	1
Cerebro-Spinal Meningitis ..	1	0	1

NEW ZEALAND.

The following notifications have been received by the Chief Health Officer, Department of Public Health, Hospitals and Charitable Aid, New Zealand, for the four weeks ending July 23, 1917:—

Disease.	No. of Cases.
Scarlatina	292
Diphtheria	515
Enteric Fever..	54
Pulmonary Tuberculosis	147
Cerebro-Spinal Meningitis	6
Puerperal Fever	1
Septicæmia	14
Ophthalmia Neonatorum	4
Hydatids	1
Erysipelas	2

We regret to record the death of Dr. Arthur Henry Gault, of Mitcham, South Australia, which took place on August 28, 1917.

The Medical Journal of Australia.

SATURDAY, SEPTEMBER 8, 1917.

Puerperal Infection.

The Departmental Committee (Department of Trade and Customs) appointed to analyse and report on the causes of death and invalidity in the Commonwealth have just issued a report on maternal mortality in child-birth. In this report the frequency of death from preventible causes during child-birth is recorded, and the social problem is enquired into. The Committee set out on their task by repeating the fact that in well-conducted lying-in hospitals, the mortality from puerperal sepsis has been eliminated, to all intents and purposes. In the year 1915 no less than 182 women in the Commonwealth died of some form of puerperal infection, and 576 died of various causes connected with the puerperal state. Deaths from puerperal sepsis, puerperal hæmorrhage and some of the conditions, usually grouped together in statistics as "other accidents of child-birth" receive the careful attention of the Committee as a class of preventible affections. In endeavouring to trace the cause of these numerous deaths, they first deal with the untrained or half-trained midwife. In the next place, they find evidence, quoting Arnold Lea, of some blame attributable to medical practitioners, and lastly they see in unhealthy and unhygienic surroundings an indirect factor in the production of the morbid conditions. The midwife may be regarded as the primary cause of a high morbidity and mortality from puerperal sepsis and hæmorrhage. Want of cleanliness, failure to appreciate the necessity of every conceivable antiseptic precaution and neglect to summon aid of a competent medical practitioner must inevitably lead to the unnecessary loss of many mothers' lives. In order to safeguard the public against the dangers hiding behind careless or ignorant midwifery, a plea for the introduction of legislation similar to that in force in England and Scotland is put forth. This legislation enforces registration and supervision of all persons practising as midwives, and sets up a standard of practice, defining the class of case which may be handled by the midwife and the class of case for which she must demand medical assistance. The case in favour of the English Act is greatly weakened by the admission that the Central Midwives' Board has been compelled to remove the names of many registered midwives for various forms of dangerous practice. They show that the introduction of this Act has not resulted in an obvious diminution of the puerperal mortality. Nevertheless, it is evident that as long as the ideal conditions of hospital practice cannot be transferred to the length and breadth of both urban and rural districts, the tighter the control which can be kept on the midwife, the better will be the chances of the woman in her lying-in period. The Committee recommend as a minimum twelve months' special training in midwifery, combined with practical instruction in the elements of general nursing and an adequate examination to test the competence of the candidate. It is probable that these requirements represent as great an increase on the English standard as is practicable. To diminish carelessness on the part of medical practitioners, the Committee call attention to the advice given by Arnold Lea. The main suggestions are that digital examination should be avoided if possible, and that operative interference should be restricted to cases in which it is imperative. The next suggestion is the introduction of compulsory notification of infective conditions associated with child-birth. The control of expectant mothers through the agency of pre-maternity clinics, the avoidance of industrial employment of the pregnant woman and the young mother, and a more advantageous expenditure of the money now distributed to women as maternity bonus are supplementary proposals aiming at a remedy of the admitted evil. The problem is a difficult one, and the solution is difficult to find. Common-sense indicates that the lives of women in child-birth should be entrusted exclusively to those who can accept the responsibility and who are prepared to answer for

accidents due to neglect and carelessness. Puerperal sepsis is preventible, and when it occurs, someone is at fault.

THE STATE REGISTRATION OF NURSES.

A Bill to provide for the registration of nurses in the State of Victoria was presented by the Minister of Public Health to the Legislative Assembly on August 22, 1917. The desirability of establishing a standard of efficiency for, and of exercising a control over, nurses in practice is now admitted by almost everyone. It is no longer necessary to point out the dangers involved in the unrestricted practice of nurses of the type of "Mother Gamp." The public has to be protected from irresponsible practice by unqualified and unregistered persons. The term "nurse," like the term "doctor," should be a guarantee that the bearer has received a prescribed training and has passed the necessary test at the end of the course. The possession of knowledge and the acquisition of skill are not the only qualities which may reasonably be expected in a nurse. Care in the management of patients, a sense of responsibility and a good repute are essentials for a nurse who undertakes the charge of a patient, either in private or in a public institution. The object of registration is to exclude the incompetent individual from the outset, and to control the behaviour of the registered nurse, so that a serious neglect of her obligations may lead to the removal of a nurse's name from the register. The reputation of the nursing profession finds its protection in the register. In the annual report of the Australasian Trained Nurses' Association the Council of that body announce that they consider the present time, owing to the scarcity of nurses, inopportune for the introduction of State registration in New South Wales. We fail to recognize in the war, and the consequent shortage of nurses, a valid reason for postponement of a necessary measure. Rather would we urge in the interests of the increased number of persons requiring the attention of nurses, that they should be protected from inefficiency.

In dealing with this subject in 1914, we urged that the constitution of the Board under any Act for the registration of nurses should be framed in such a manner that an intelligent and equitable control should be exercisable. In the Bill now before the Victorian Parliament, it is proposed to place the Administration of the Act into the hands of a Board of five medical members of the State Public Service. There is a serious objection to this suggestion. If the Board is to exercise an intelligent control over the profession of nursing, it should have on it representatives of the two bodies which undertake the training of nurses. These are the medical and the nursing professions. In the State of Victoria the representative organizations of these two bodies are the Victorian Branch of the British Medical Association and the Royal Victorian Trained Nurses' Association. Both organization could nominate members, who could be regarded as experts in the training and control of nurses. The problems that a Nurses' Registration Board would have to deal with and determine are of a kind that only those who have had long years of experience of the subject could handle with understanding and justice. Departmental medical officers are expert in different directions, and to select them for this special duty would be singularly inappropriate. Moreover, the principle has long been recognized both in England and in Australia that the control of a profession should be to some extent in the hands of direct representatives of the members of the profession concerned. It is significant that His Excellency the Governor-General introduced into the House of Commons in 1906 a Bill for the registration of nurses, which provided for the representation of both the nursing and the medical professions. The Victorian Branch of the British Medical Association and the Royal Victorian Trained Nurses' Association claim that each organization should have two nominees, that there should be one nominee of the metropolitan general hospitals and one of the rural general hospitals, and lastly that there should be one Government nominee. The appointment would be made by the Governor in Council. We can only urge upon the Minister in charge of the Bill not to mar a highly salutory measure by the introduction of an unwise provision which would have the effect of creating difficulties and discontent.

TETANIA THYREOPRIVA.

The condition of *tetania thyreopriva* was observed in the surgical clinics of Vienna in 1882. A few days after the operation of thyroidectomy it commenced with cramps, usually localized in the limbs. The contractions soon spread to other groups of muscles, giving rise to lock-jaw, blepharo-spasm, trachelismus and opisthotonos. These spasms were accompanied by increased speed of breathing and of the heart-beat and by fever in which the temperature of the body was raised 2° or 3° C. Occasionally convulsions of an epileptiform character were noticed, though consciousness was not lost during the "fits." In many patients death occurred rapidly, but in others the disease followed a protracted course, during which acute tetanic attacks developed from time to time. Since these early observations it has been noted that tetany may appear months or years after the excision of the thyroid gland. Fibrillary twitchings may be noted in different groups of muscles, or, less often, convulsive spasms of varying severity may occur. An example of this latter form of tetany in a patient from whom a "goître" had been removed five years previously is described by Dr. J. D. Herlihy in this issue. The principal feature of this case is the exciting action of parturition in bringing about an exacerbation of the conditions leading to tetany.

Since the investigations of Gley in 1892 the association of ablation of the parathyroid glands with the onset of tetany has been recognized. Vassale and Generale, in 1896, aware of the presence of four parathyroid glands from the accurate anatomical studies of Kohn, published in 1895, demonstrated that removal of the parathyroid glands may lead to fatal tetany, even when the thyroid gland is not injured. In the human subject the parathyroid glands usually lie outside the thyroid gland, so that the surgeon does not remove the inferior parathyroid glands in the excision of goître by subcapsular methods. Sometimes these glands are united to the thyroid gland when they may be included in the excised mass. Vassale has suggested that the late onset of tetany is observed, when only one parathyroid gland is left *in situ*.

The researches of A. B. McCallum have shown that the symptoms induced by parathyroidectomy are removed by venesection or by the injection of salts of calcium. McCallum believes that these symptoms are caused by the action of some toxic substance circulating in the blood or by an insufficiency of lime. Most physiologists are of opinion that the fact that bleeding ameliorates the tetany negatives the hypothesis of a deficiency of calcium occasioning the nervous symptoms. D. Noel Paton, L. Findlay and D. Burns[1] have recently shown that the introduction of guanidin hydrochloride or carbonate into rats, cats and rabbits gives rise to the spasticity, tremors, incoördination, disturbance of balancing and convulsive seizures characteristic of tetany. When the guanidin is given by intra-peritoneal or intra-muscular injection, these effects continue for several days, during which the state of the animal is exactly similar to that of an animal from which the parathyroid glands have been excised. These effects of guanidin are completely inhibited by the use of salts of calcium. In this respect the action of guanidin is still further correlated with the condition of tetany. The administration of methyl-guanidin nitrate to rats calls for the same effects on the neuro-muscular system as are produced by guanidin. In 1912 W. F. Koch[2] recorded the presence of methyl-guanidin in the urine of six dogs from which the parathyroid glands had been removed. This substance had already been isolated from normal urine, but later workers have shown that much greater amounts of methyl-guanidin appear in the urine of dogs after parathyroidectomy has been performed. Guanidin is found in combination in striated muscles and processes of methylation take place easily in the animal body. It is, therefore, conceivable that methyl-guanidin enters the blood stream as a result of the autolysis of muscle, and that the parathyroid glands are concerned with the detoxication of this substance. When this antitoxic mechanism fails, or is absent, the neuro-muscular system is affected and tetany supervenes.

[1] Proc. Physiol. Soc., London, in *Journ. Physiol.*, Vol. XLIX., p. xvii., 1915.

THE PATH OF RENAL INFECTION.

It is generally regarded as proved that a renal infection is not produced by the spread along the ureter, save in the event of complete obstruction and pathological involvement of that structure. This doctrine of ascending infection from the bladder to the kidney was held formerly, but has now been ascribed to the scrap heap. It is, therefore, surprising to learn that Drs. D. N. Eisendrath and O. T. Schultz have again raised this matter and have essayed to prove that an ascending lymphogenous infection does take place.[1] They claim that they have succeeded in producing such an upward infection experimentally from a bladder devoid of lesions. Simple injection of bacteria may give rise to an infection of the bladder, ureter, renal pelvis and parenchyma. They assume that this infection travels along the network of lymphatics surrounding the vesical and ureteral walls. From the renal parenchyma, the infection may involve the perirenal tissue. The details of the communication are not full enough to enable us to form a definite opinion as to the validity of the authors' contentions. Unfortunately, they do not publish photomicrographs of the lesions produced. On the other hand, Dr. Hugh Cabot and Dr. E. G. Crabtree, who had an opportunity of examining the specimens prepared by the authors, expressed themselves in the discussion following the reading of the paper, as extremely sceptible in regard to the correctness of the deductions. The two observers have raised several interesting points connected with the results of experimental infections of the normal bladder, which deserve repetition and control, but, until convincing evidence has been put forward, urologists will not relinquish the view that ascending infections along the ureter do not occur.

[2] *Journ. Biol. Chemistry*, Vol. XII., p. 313, 1912, and Vol. XV., p. 42, 1913.
[1] *The Boston Medical and Surgical Journal*, July 5, 1917.

Abstracts from Current Medical Literature.

SURGERY.

(81) Cholecystectomy.

Major G. Seeling (*Surg., Gynec. and Obstet.*, July, 1917) refers to the different operations for removal of the gall-bladder, and holds that the organ can be removed more satisfactorily and with most safety by enucleating it from the fundus downward. He points out the advantages of this method, as contrasted with the so-called typical cholecystectomy (*i.e.*, primary division of the cystic duct and cystic artery). In speaking of pitfalls, the author refers chiefly to two factors: (*i.*) death following cholecystectomy in cases where a fatality was not, and in reality should not, have been anticipated, and (*ii.*) injury to the duct system in spite of the practise of what seemed to be diligent caution. Post-operative repair of the bile ducts seems to occupy a much more prominent place in the literature of America than in that of Germany or France, where the operation of choice is removal of the gall-bladder from the fundus downward. Evidently the ducts were more injured in America. Up to 1900 the operation seems to have been done exclusively from the fundus downwards. In 1906 Erdmann described the same operation, but added that in some cases, owing to embarrassing bleeding, it is wiser to divide the cystic duct first and to remove the gall-bladder from below upward. At the same time the Mayos and Moynihan began to advocate the operation from below upwards. This change of front seems to rest solely on the notion of lessening bleeding. Moynihan adds the argument that by this method the only difficult part of the operation is done first, and the Mayos point out that by this method injury to the common duct is avoided, since no traction on it is exercised. The author quotes three definite principles underlying the operation of cholecystectomy. Hæmorrhage may be of three types: (*a*) parenchymatous, from the bed of the gall-bladder; (*b*) arterial, from the branches of the cystic artery distributed on the wall of the gall-bladder; and (*c*) that serious form from the cystic artery itself, near its origin. The methods of preventing or arresting this hæmorrhage is dealt with. If, on removing the gall-bladder from above downward, the surgeon encounters hæmorrhage from the cystic artery, he will find that by using the mobilized gall-bladder as a tractor, he can aid himself immeasurably in exposing the field and grasping the bleeding vessel without any undue danger of injuring the ducts. As regards ligature of the cystic duct, various writers are quoted as showing that the relationship of the cystic and hepatic ducts is perplexingly variable, but a glance at a schematic representation of them serves most admirably to emphasize the difficulty and danger attendant upon the so-called preliminary ligature of the cystic duct. The writer holds that, even when the cystic duct is exposed, it should be traced both to the hepatic duct and to the gall-bladder before ligation, and that the best method of doing this is by dissecting the gall-bladder downwards and exercising traction. Finally, the third principle consists in ascertaining whether or not the common and hepatic ducts are unobstructed throughout their course. Most authors suggest palpation after the gall-bladder is removed. Localization of stones by palpation is a very illusory procedure, even when the stones are placed in the easily palpated gall-bladder. Much less reliance can be placed on palpating the ducts. Probing of the ducts is easily accomplished, provided the cystic duct is divided not farther than 0.6 cm. from its entrance into the hepatic. If the cystic stump is left too long the probe encounters the spiral valves of Hester, which blocks its passage through the duct. The important conclusion is that a guiding principle in cholecystectomy ought to be thorough exploration of the ducts with a probe. Such an exploration cannot be made if the popular operation of the day is performed. A full description of the operation, as performed by the author, is given.

(82) The Operative Treatment of Varicocele.

E. Wyllys Andrews, in the *Surgical Clinics of Chicago* (June, 1917), discusses the methods of operating for varicocele, and describes an operation for the shortening of the scrotum by using a double line of sutures. The operation is a modification of the ancient operation of Sir Astley Cooper and of the various forms of clamp amputations of the scrotum. He claims that it has all the advantages and none of the drawbacks of these methods. In practice, vein resection is combined with the shortening of the whole of the scrotum. It is true that when careful vein resection is carried out, the cord mass is reduced in size and length, and the varices cured permanently, but what disappoints some patients is that the redundant sac persists, even while the testis is held up close to the pubis. One cause of this is the acquired hypertrophy of the scrotal skin and *dartos*. Occasionally the cause is seen to be the presence of varices in the scrotal tissues, apart from the cord and testis. When the scrotal skin remains hypertrophied, in some labouring men, there remains a disability due to the weight and *intertrigo* of the redundant scrotum, especially in warm weather. If the scrotal sac is so shortened as to be round, instead of pendulous, of the canine rather than the capricorn type, the veins are supported in such a manner that they empty themselves, just as they do in the recumbent position. This clinical observation probably explains the popularity of the Cooper method, which could be done, even before antiseptic times, without much risk, whereas resection of veins by old methods led to numerous accidents. The author found that scrotal shortening alone at times did not empty the varix wholly, but that it would remain as a visible palpable tumour in the upper scrotum and canal. He, therefore, now opens just below the external ring, and does a vein resection; he then proceeds to amputate the lower half or two-thirds of the scrotum, converting it into its own suspensory bag, and incidentally destroying all scrotal loops and varices. One is apt to remove too little of the scrotal sac, and the operation will be disappointing if much loose sac is left above. The dangers attendant on operation by clamp methods are dealt with, and the author's methods of removing the redundant scrotum is fully described. It is stated that it never gives anything but quick and sure primary healing.

(83) Gastric Duodenal Infusion.

Golder L. McWhorter (*Journ. Amer. Med. Association*, May 12, 1917) states that the duodenum was first utilized for infusion in a group of dangerous biliary infections by McArthur. Maury used a duodenostomy opening for this purpose in the experimental laboratory. Since Matas found it impossible in some cases of obstruction of the cystic or common duct to instil fluids into the duodenum by the drip method through the biliary fistula, he passed a fine catheter through the biliary tract into the duodenum. It occurred to the author that the passage of a catheter by the mouth into the duodenum would be preferably to the biliary route, since it could be used in other cases than those of biliary fistula, and would be more certain than the drip into the biliary drain. The use of the biliary route to the duodenum in cases in which a fistula would ordinarily be made for the treatment of some pathological condition of that tract, would not increase the dangers of infection, of permanent fistula, or of shock from prolonging the operation; but a biliary fistula made for the purpose of duodenal infusion, in addition to some other operation, would decidedly increase those dangers, and would have a marked disadvantage over a method as simple in performance as the passage of a duodenal tube by the mouth. The author is convinced from a review of the literature that the use of the duodenal tube for infusion in post-operative treatment is a new procedure. The duodenal tube may be passed before operation to improve the patient's condition more readily or during or after operation. The tube is of value as soon as it is in the stomach, since the stomach may be washed out to prevent post-anæsthetic vomiting. In addition, the passage of the tube through the pylorus may relax it, as it does in persistent vomiting, due to pylorospasm. The introduction of the duodenal tube into the stomach may be effected by first passing the tube inside of a stomach tube and by withdrawing the latter. The tube is described and the method of passing it from the stomach to the duodenum is given. It is stated that infusion

through the permanent tube by the mouth is desirable in the treatment of post-operative cases with early nourishment and medication, since it may be instituted at any time without adding to the dangers of operation. In dehydration, in acidosis, in ileus, and especially in the persistent vomiting following gastro-intestinal operations, this method has proved of definite value.

GYNÆCOLOGY AND OBSTETRICS.

(84) Pituitary Extract.

J. J. Mundell (*Journ. Amer. Med. Assoc.*, June 2, 1917) gives his conclusions regarding the present status of pituitary extract in labour, drawn from a study of 5,245 cases. One of the most striking points brought out is that the contents of an ampule (1 c.cm.) is too large to be given in a single dose, and he advises 0.3 c.cm., which may be repeated frequently. He is of opinion that many of the serious consequences that have been reported, probably would not have occurred had smaller doses been used. It is best repeated in 30 to 50 minutes. Occasionally there are failures, and these he explains by the fact that at times, for some unexplained reason, the contents of an ampule are inert, and, further, that the sterilization of the hypodermic syringe in alcohol counteracts the action of pituitary. To administer the extract in conditions which are associated with increased blood pressure, nephritis, eclampsia, toxæmias, etc., and to give pituitary extract in the first stage of labour, is strongly condemned. Its field of usefulness is in secondary inertia, towards the end of the second stage in multiparæ. The ideal case for its use would be a healthy multipara with a history of previous normal labour, late in the second stage, when the pains become slow and weak, owing to uterine inertia, with a normal presentation, and with the bag of waters ruptured, with the cervix fully dilated and with the head moulded and through the brim just above a relaxed perineum. In such a case pituitary extract frequently replaces low forceps operation. The placenta, as a rule, is detached more quickly than usual, and less blood is lost. Occasionally, even in these well-defined cases, delivery may not be immediate, and in such cases the result may be bad for the baby. He is of opinion that a step beyond the narrow confines of these indications is entering dangerous territory. Although pituitary extract is recommended in cases of post-partum hæmorrhage, he regards ergot as undoubtedly to be preferred. Its use in primiparæ under any circumstances is not without danger. He is strongly of opinion that it should never be used in normal labour. The fact that once injected there are no means of controlling its action, violent and tumultuous as it is on occasions, should be a bar against its indiscriminate use. The use of pituitary extract must always be preceded by the use of pelvimeter. He regards its present universal use as reckless and careless. He reports 12 cases of rupture of the uterus out of 1,293 cases collected in 1917. Although he admits that in the majority of these cases rupture of the uterus was due to its misuse, he reports one or two cases in which the extract apparently was clearly indicated. One case, for instance, with normal measurements, fully dilated os, the head in the pelvis, yet rupture followed within 20 minutes after the injection of 1 c.cm. However, he feels that when its indications and dangers are more fully recognized by the profession and much smaller doses are given, the danger to the mother will be reduced to a minimum. The effect on the child, however, presents quite a different phase of the subject; cases of asphyxia and fœtal death have been reported when the diagnosis was definite and the indications were clearly defined. He has collected from the literature of the past two years 34 cases of fœtal death and 41 cases of *asphyxia pallida*, in which resuscitation was effected only after prolonged and vigorous efforts. He reports three cases (Herd) of nervous lesions due to cerebral hæmorrhage resulting in terrible afflictions, in which the indications that it was due to pituitary extract were fairly clear. In his opinion, pituitary extract probably has a place in the obstetrician's armentarium, but for its undoubted effects on the child primarily and the mother in a lesser degree, it would seem that its field of usefulness is a limited one.

(85) Rupture of Uterus.

W. Wertenbaker (*Journ. Amer. Med. Assoc.*, June 2, 1917) reports two cases of spontaneous rupture of the uterus following the administration of pituitary extract occurring in the Delaware Hospital within 12 weeks of each other. The two cases bore a marked resemblance to each other in their salient features, and in neither was there any uterine manipulation, attempted version or use of forceps. In neither case had true engagement taken place, but the presenting part was well within the pelvic brim. Otherwise they met with the usual indications for the use of pituitary extract. Both patients were multiparæ, in the both dilatation of the cervix was complete, the membranes had ruptured, the fœtus was presenting by the vertex, though the uterine contractions were weak and inefficient. Each patient received one single injection of one ampule (1 c.cm.). Both pelves were practically normal, and the *conjugata vera*, as estimated at the operation, was at least 10 cm. After operation, both babies were found to be somewhat above the average size, one was a little above and the other a little below 4.5 kilograms. In one case the uterus ruptured five minutes after the administration of pituitary extract, and the other three or four minutes after. At the operation, laceration was found through the utero-vesical fold; the children, placentæ, and uteri were removed by super-vaginal hysterectomy. One patient died after the operation; the other made an uninterrupted recovery.

(86) Pelvic Inflammation.

Clarke and Norris (*Surg., Gynec. and Obstet.*, July, 1917) record their results following the treatment of pelvic inflammatory lesions by surgical measures. From a study of more than 500 cases, in which the post-operative and remote results of surgical intervention in pyrogenic infection of the Fallopian tubes were considered, they conclude that a course of conservative, preparatory treatment, as suggested by Simpson, namely, rest in the Fowler position, careful regulation of gastro-intestinal functions, the administration of diuretics, hot douches, and hot and cold applications to the lower abdomen, decreases the mortality and enhances the chance of securing a good functional restoration of the pelvic organs. In all cases of acute infection of the Fallopian tubes, they keep the patient under observation until the course of the case is defined. (*a*) In a large majority the symptoms, general and local, subside, and if it is the first attack, the patient may be left alone until a recurrent attack supervenes. If there is no recurrence, the patient may regain normal health without operation. When operation is resorted in, both tubes are usually removed and the ovaries are conserved. (*b*) If, under the conservative plan, the symptoms do not abate and the tubes continue to enlarge, vaginal drainage is instituted. This may be sufficient to cure the patient, otherwise the tubes are removed later through a laparatomy wound. They assert that in the purulent lesions of the tubes, all operative procedures are attended with a higher mortality and greater morbidity, whereas under a conservative waiting treatment, the patient will seldom die during an acute infection. In their series there were no deaths. In all hazardous cases the increasing severity of the symptoms and the enlargement of the pelvic masses give ample warning and admit of a simple drainage operation that will tide the patient over the danger. When the acute attack has subsided, the surgeon has the best opportunity of ascertaining the exact degree of the involvement of the tissues, and is thus enabled to select the type of operation best suited to the individual patient. Further, they regard plastic operations upon the fimbriated extremities of the Fallopian tubes with a view to the restoration of fecundity, as almost invariably failures, and believe that the safer policy is to remove the tubes and disregard any attempt at restoration. Finally, they come to the conclusion that hystero-salpingo-oöphorectomy in sexually mature women subject to chronic infections of the uterus and adnexa, is followed by a lower mortality and greater certainty of restoration of health than is possible after conservative operation, and advise that the preservation of ovarian tissue should be limited chiefly to women under 30 years of age.

British Medical Association News.

SCIENTIFIC.

A meeting of the Victorian Branch was held at the Medical Society Hall, East Melbourne, on August 8, 1917, Professor R. J. A. Berry, the President, in the chair.

The discussion on Mr. H. B. Devine's paper on "Chronic Ulcer of the Stomach and Duodenum; Surgical Treatment and End Results" was resumed (see *The Medical Journal of Australia*, August 4, 1917, pp. 89-100 and 108-110).

Dr. Stawell congratulated Mr. Devine on the admirable paper which he had written on the subject of the surgery of chronic peptic ulcers. Every paragraph reflected not only skill and care, but thought and discrimination; it was a difficult subject finely handled.

Though there were two chief points for discussion: (1) that of X-ray diagnosis, and (2) that of the methods and rationale of the surgical treatment of chronic peptic ulcers, yet something must be said concerning the ætiology of these ulcers. No treatment, whether medical or surgical, could be considered entirely reasonable or satisfactory, unless something of the cause of the condition requiring treatment was known.

Mr. Devine, in his paper, had referred to the causation of chronic ulcer, and expressed the view that "hyperchlorhydria" was the cause of chronicity in peptic ulcers; he recognized that many forms of sepsis might be the exciting cause of the acute stages of the ulcer, the sepsis acting as the source of gastro-toxic agents. In the discussion it might be at once conceded that hyperchlorhydria, by which was meant an abnormally excessive secretion of normal gastric acid juice, was a factor in the production of chronic peptic ulcer, for such type of ulcers only occurred in the "hydrochloric acid zone." But was hyper-acidity the dominant cause of ulceration? If it was, there would not be much hope of the healing of a surgical operation, involving the gastric mucous membrane in any case of hyperchlorhydria; yet it was known that on one side of the stomach there might be good union taking place after a gastro-enterostomy and on the other side of the same stomach there might be progressive destruction of tissue and perforation of a gastric ulcer taking place.

As regards the ætiology of acute gastric ulcer, Bolton's work indicated that, first preceding and then concurrently with the influence of hyperacidity there must be spoiling or devitalization of the cells of the gastric mucous membrane, the result of the presence of gastro-toxic substances. Bolton appeared to be of opinion that chronicity of the ulcer followed upon the continued presence or stasis of hydrochloric acid in the stomach. Bolton's view would be a satisfactory explanation of a pre-pyloric ulcer, but stasis in the stomach would not account for the production of a chronic post-pyloric ulcer.

Dr. Stawell thought that, in addition to the two factors already mentioned, there was a third and possibly more important factor, *viz.*, excessive disordered movements of the parts involved, producing constant spasmodic irregular contraction. An impressive sight seen with the flourescent screen was the various types and degrees of spasmodic contractions of the stomach, which included functional pyloric spasm, great distortion of the body of the stomach, the condition known as the "writhing" form of peristalsis, all of which disturbances might exist apparently without structural organic basis. In connexion with this point, it was to be recognized that gastric pain, described as "hunger pain" or that condition known as "food ease," must be of the nature of a spasm, and must be of the nature of a griping pain, exactly like an ordinary colic.

Any influence that produced vomiting was a gastro-toxic agent. A class of subtle biochemical and obscure septic substances, as large as the class of emetics, was involved in the initial production of a peptic ulcer. In the production of chronicity there were two factors, spasmodic movements of the parts and hyperchlorhydria of the contents. It was necessary to accept the view that these were factors in the production of peptic ulcers, or to acknowledge that the essential cause of the ulcer was still unknown, just as the essential cause of carcinoma was still unknown. He would like to ask a question as to the actual experience of members as regards the relationship between the chronic gastric ulcer and carcinoma. In his own experience, it was rare in a case of gastric carcinoma to get an unequivocal history of gastric ulcer. In this respect, his experience tallied with the experience of Osler, who, in a series of 150 cases of cancer of the stomach, found only four cases in which there was a history pointing to ulcer, and yet Ochsner and the workers in the Mayo Clinic showed that from a surgical point of view, confirmed by microscopical examination of the tissues removed, over 60% of cases of gastric carcinoma were sequent to a condition of chronic gastric ulcer. Such observations must mean that many severe, progressive, chronic peptic ulcers never had any distinctive clinical symptoms at all.

The diagnosis of chronic gastric ulcer, even when there were dyspeptic symptoms and signs of hæmorrhage, was very difficult. In many chronic diseases of the stomach, in chronic ulcer of the stomach itself and in pre-pyloric ulcers, the value of X-ray examination was very great; indeed, occasionally it transcended all other methods of investigation. It might be said that the X-ray examination was of great value in diseases of the stomach, with (1) displacement of the stomach, (2) enlargement, (3) gross defects of motility, rapid emptying or slow emptying (stasis), (4) great deformity of the contour, such as hour-glass contraction, puckering adhesions, (5) thickening of the walls with crater-like ulceration, as in chronic ulcer, and (6) thickening of the walls with the appearance of so-called filling defect, as in a carcinoma.

It must be recognized that the opaque meal shadows might be most misleading. In the larger number of cases, the X-ray screen examination must be taken as part of the general investigation of the case, and an opinion given only after consideration of all the points. Nothing, however, could be more convincing than the opaque meal shadows of definite structural changes about the contour of the stomach. The hour-glass stomach could be detected in a few minutes.

He held the opinion that gastro-jejunostomy was, as a rule, of great value in the relief of symptoms when there was pyloric narrowing with definite food retention in the stomach. When there was no food retention, however, the operation had been ultimately and almost invariably a great disappointment. It was perhaps permissible for him to say also that he had a certain mistrust of operations which were designed to interfere as little as possible with the physiological functions and anatomical relationship of the stomach and duodenum. It was possible that the less radical was the change produced by the surgeon, the more likely was the condition of chronic ulcer to recur in the part subjected to operation.

Whatever doubt he had in referring to the problem of gastro-duodenal surgery, he had no hesitation in saying that progress would be made by men working and thinking along the lines suggested by Mr. Devine.

Dr. Murray Morton said that the surgical attitude towards gastric and duodenal ulcer could be divided into three phases. The first was the earlier period, in which the surgeon had been content with the clinical diagnosis; the second was the period when the surgeon verified the clinical diagnosis by demonstration of an ulcer during operation, and then proceeded to perform gastro-jejunostomy; the third and present phase was well shown in the paper by Mr. Devine.

He had always felt, since the first appearance of Sir Berkeley Moynihan's book on duodenal ulcer, that his teaching was not only wrong, but positively dangerous. His dicta that the anamnesis was everything and the physical examination was relatively nothing, and that all cases giving the characteristic history could be cured by posterior gastro-jejunostomy, were dangerous teaching when readily accepted by operators whose ideas had not been formed by experience. The great value of Mr. Devine's paper was that it drew attention to the importance of careful diagnosis and of appropriate variation in the methods of operation and technique.

The value of preliminary X-ray diagnosis had been placed before members fully. He did not think that any case of suspected gastric or duodenal ulcer should be operated on

without a preliminary X-ray diagnosis. Dr. Stawell had stated that shadows indicating ulcer were often conspicuous by their absence, but the speaker's experience was coincident with that of Mr. Devine, in that it was in cases with fixity to another organ where the crater shadows were seen. In a case operated on at St. Vincent's Hospital a week before, a clear shadow was seen in the duodenum; at the operation the duodenal ulcer was found firmly fixed by its base to the gall bladder.

The speaker thought that more might have been heard from the physicians during this discussion about the remarkable mimicry of symptoms of gastric and duodenal ulcer in the condition known as visceroptosis. In the differential diagnosis in these cases the X-ray screen was a valuable help.

In the earliest period in the operative treatment of gastro-duodenal ulcer, where an anastomosis was performed on a clinical diagnosis alone, it yielded very unsatisfactory results. During the second period, any surgeon with the experience of ten years or more would know that many of the cases in which an anastomosis had been performed after demonstration of an ulcer on the table, had done exceedingly well, and had been cured, although the pylorus had not been occluded.

The most satisfactory cases of all were certainly those in which excision of the ulcer had been performed. He had recently had under his care for another condition a patient from whom he had excised a gastric ulcer eight years previously, and who had had excellent health since.

The operation suggested by Mr. Devine, as yet only performed experimentally on dogs, was worthy of consideration. On a minor point in technique, he favoured performing gastro-jejunostomy without clamps. The great advantage was that vessels could be secured as they were divided when the stoma was being made, and the danger of post-operative hæmorrhage was eliminated. Although there was a more bloody field, careful packing protected the peritoneum. By the use of guy sutures the viscera could be lifted well out, and there was little fear of escape of gastric and jejunal contents.

Dr. Basil Kilvington's contribution to the discussion was mainly a consideration of the physiological principles which underlie the surgical treatment of chronic ulcers of the stomach and duodenum.

Acute ulcers of the stomach were recognized as of extreme frequency. Many cases of acute indigestion and gastritis were associated with ulceration or erosion of the mucous membrane. The majority of these, however, healed up spontaneously, or with medical treatment, but a few persisted and formed the chronic type.

Chronic ulcers were most resistant to treatment, and rarely healed without removal. Their symptoms might be few, and especially in the duodenal cases the general health of the patient might be good, yet they were liable to periods of exacerbation when the ulcerative process extended. He had been in the habit of fixing a six months' continuous history as evidence of the ulcer having reached the chronic and incurable stage. An ulcer of this duration needed an operation sooner or later.

Dr. Kilvington stated that there was a definite group of cases (consisting of perhaps 12%) where chronic trouble in the appendix was associated with ulceration or symptoms of ulceration of the stomach and duodenum. The relationship was uncertain, but there was probably a reflex gastro-hyperacidity and some gastro-intestinal infection underlying both conditions. These were the "appendix dyspepsia" cases of Moynihan. There was some definite pain or uneasiness on pressure in the right iliac region in these cases, associated with the indigestion and epigastric pain, though the patient did not usually volunteer this information. In the treatment the smaller operation of appendicectomy should be performed, and the surgeon should wait for a few months to see the result on the epigastric symptoms. His own practice was to make a median sub-umbilical incision, which would admit his hand. Through this the appendix was dealt with, and then he pushed his hand upwards. It was usually possible to palpate gall stones, either in the gall bladder or in the ducts, and it was often possible to feel a chronic ulcer, if one were present in the stomach or duodenum.

The majority of small ulcers, and those without marked fibrosis and thickening, passed unrecognized, but this was not of material importance. In some of these people the gastric symptoms subsided after a few months. It might be assumed that the ulcer had healed or that the condition had been merely one of reflex hyperacidity. In others the symptoms persisted practically unchanged, and a second operation became necessary.

In turning to the actual surgical technique in the treatment of chronic ulcers, Dr. Kilvington said that several methods were possible. Kocher asserted that he could cure all ulcers of the stomach and duodenum by a posterior gastro-enterostomy, but the general experience did not support this. He agreed with Mr. Syme that a simple gastro-enterostomy only relieved those cases where the main trouble was an obstruction at the pylorus, secondary to the fibrosis around the ulcer. The benefit in these cases was dramatic, though it was not always maintained.

A *sine qua non* in the treatment of chronic ulcers was an excision of the ulcer. Most of these ulcers would never heal by any other method, and there was a liability to perforation, to malignant degeneration, or to cicatrization producing obstruction. It was often impossible to exclude carcinoma from ulcer, even when the growth was exposed, without a microscopic examination. He had had two illustrative cases within a short time. The first patient was a woman of 50. The lesion was regarded to be a chronic ulcer, even after it had been removed. The pathologist reported that there was definite carcinomatous change in the base. The second case was in an old man of 70. A very wide removal had been done, on the supposition that the tumour was malignant; yet the microscope showed it to be chronic inflammatory.

In ulcers away from the pyloric region a simple excision, with suture of the stomach walls, was, as Mr. Devine had shown, sufficient. This did not do away with the causes of and tendency to further ulceration, but these were beyond the range of surgery. Unfortunately, the majority of ulcers were near the pylorus, and any satisfactory excision must encroach on the narrow lumen of the canal, so far as practically to occlude it. The re-establishment of the continuity of the gastro-intestine constituted the real difficulty in the surgical treatment. On this point opinions varied radically. A posterior gastro-enterostomy was the commonly used method of effecting this. Before discussing the results of this, Dr. Kilvington referred to the physiology of the region. There was general agreement that the presence of free hydrochloric acid in excess, if it did not actually produce ulceration, was very inimical to the healing process. In the stomach free hydrochloric acid combined with the food protein and formed a harmless compound, but if the protein was deficient, as in a meal consisting largely of fats and carbohydrates, much of the hydrochloric acid remained unneutralized, passed along through the pyloric opening, and trickled over the biliary papilla. There it excited a powerful reflex secretion of alkaline bile and pancreatic juice, which regurgitated into the stomach and neutralized the free hydrochloric acid. This was nature's method of dealing with the danger. In ulcer of the stomach and duodenum there was a marked spasm of the pylorus, which hindered the regurgitation of alkaline juices and by a gastro-enterostomy or a Pólya's operation the stimulus to the pancreatic alkaline secretion was mechanically prevented, since the acid stomach contents could not reach the region of the biliary papilla. The contents were sent unneutralized into the jejunum—a portion of intestine accustomed to deal only with alkaline fluids, and having no defence against an acid medium. This was what usually happened after a gastro-enterostomy, as it was generally admitted that occlusion of the pylorus should accompany the operation. If this were not done, it was found that in a short time the gastro-enterostomy opening ceased to be used, and practically all the flow was along the old route, through the pylorus. Clinical experience corroborated this physiological reasoning.

The usual history was as follows: After the operation the patient felt very well, and the indigestion disappeared, but in a few months many of the old symptoms returned, including the epigastric pain and often the vomiting.

His most successful case after this procedure was in a man who had been operated on four years before for pro-

fuse and repeated bleeding from a duodenal ulcer. The ulcer had been infolded, so as to block the duodenal canal, and a posterior gastro-jejunostomy had been performed. At the present time he was quite well, and took part in athletics, and was free from indigestion. On careful inquiry it was found, however, that he could not eat everything, and had to take bicarbonate of soda frequently. Dr. Kilvington held the opinion that this was the best that could be expected after gastro-jejunostomy for ulcer, and that it was necessary for a prolonged period—perhaps permanently—to neutralize the gastric contents with alkalies and to avoid condiments and tasty dishes, particularly of meats.

The disadvantages of gastro-enterostomy were largely absent when it was used with an excision of a cancer, because these cases, as a rule, had a very deficient secretion of hydrochloric acid. He suggested that test meals previous to operation in chronic ulcer yielded a good indication of the advantages to be expected from a gastro-enterostomy. These advantages were in inverse ratio to the amount of acid found in the test meal. In the more severe cases of indigestion after this operation, there was probably definite ulceration present, either the well known "peptic ulcer of the jejunum" or ulcer of the actual anastomotic opening itself. He spoke of two cases in which extensive ulceration after gastro-enterostomy produced a large opening where the stomach, transverse colon and small intestine communicated freely. From the base of one of these the original silk suture used for the anastomosis was removed. These actual peptic ulcers after gastro-jejunostomy were always extremely difficult and often quite impossible to remedy.

The second method of restoring the gastro-intestine after a pylorectomy (excision of an ulcer in this region practically amounted to this) was either an end-to-end junction of the stomach and duodenum, or a gastro-duodenostomy after the free ends of the stomach and duodenum had been closed. Following Moynihan's practice in intestinal anastomosis where the calibre of the two pieces of bowel was much dissimilar, he had closed the ends of either loop, and with clamps performed a side-to-side anastomosis, quite close to the cut end. He had recently extended this technique to gastro-duodenostomy. The usual end-to-end junction involved the suture of the duodenum about 2.5 cm. across, to the stomach, where the raw surface was from 5 to 7.5 cm. This left a very awkward angle, which was apt to leak, unless it was protected by a piece of omentum. In addition, it was very difficult, or impossible, when the posterior part of the pyloric region had to be excised, to suture peritoneal covered surfaces together. Both these difficulties could be overcome by closing the ends of the stomach and duodenum and then applying clamps vertically to the stomach and the second part of the duodenum and performing an ordinary intestinal anastomosis. This was an ideal operation from a physiological point of view, and had the following advantages: (1) It restored, as far as possible, the normal route for the flow of the gastric contents. It also insured that only bowel accustomed to hold acid contents had to deal with the material leaving the stomach. (2) Owing to the free communication of the stomach and duodenum (in gastro-duodenostomy the pyloric part of the stomach and duodenum were practically one) the flow of alkaline pancreatic juice was readily evoked and regurgitated freely into the stomach, for there was no pyloric sphincter whose spasm could prevent this.

As far as excess of free hydrochloric acid was a cause of ulcer, this condition would tend to prevent the occurrence of future ulcers.

A limited experience of this ideal operation had taught him that the after-results were very good. More time must elapse before it could be compared with gastro-enterostomy. It had undoubtedly some disadvantages. Pylorectomy and gastro-duodenostomy undoubtedly comprised a big operation, and would have a somewhat higher initial mortality than gastro-enterostomy. It would, therefore, be unsuitable for certain patients, who were only fit to have the "radical cure" performed as a two-stage operation. The ideal operation should be completed at one sitting. For the same reason it seemed inadvisable in cases of perforation of the ulcer or cases of bad hæmorrhage. In perforation not only was the general condition often unsatisfactory, but the tissues in the neighbourhood of the ulcer were more or less brittle, and sutures cut through the bowel wall. In some of these cases gastro-enterostomy might be forced upon the operator, and as the part of the stomach utilized in this operation was usually well away from the region of the ulcer, the tissues were fairly normal and held the sutures satisfactorily.

In thanking Mr. Devine for his illuminating and valuable paper, Dr. Kilvington said that the surgical treatment of chronic ulcers in this region was not yet settled. There were three main questions that needed decision: (1) When was it best to perform a severe operation, with a certain definite mortality, which was physiologically correct, and would probably give by far the best ultimate results? (2) What were the ultimate results of gastro-enterostomy with excision of the ulcer, if the patient was afterwards systematically dieted and given alkalies permanently? (3) What was the best treatment in bad cases, either due to poor general condition or to certain complications, such as perforation? Should a gastro-enterostomy be performed as well as local treatment of the ulcer, or should a two-stage operation be done, the last stage being excision and a duodenostomy? These questions could only be answered by much further clinical study of the question.

Dr. T. E. L. Lambert stated that, with regard to the ætiology of ulcer, Bolton's experiments showed that hyperacidity played a large part. After injection of gastro-toxin, dogs died with perforating ulcers, but if the stomach contents were kept alkaline before and after the injection of the toxin, there was little or no ulceration. Of the other factors, little was known. It might be bacterial or toxic. Against the former theory was the fact that most perforations did not give rise to peritonitis, if sutured early. Toxins might arise in the gall-bladder or in the bowel, perhaps due to chronic appendicitis or ileal stasis. Hort's theory was that, as the result of some poison, hæmolysins and mucolysins were formed. If the former, then hæmorrhage occurred without ulceration; if mucolysins were alone formed, ulcers formed without much hæmorrhage. Sometimes both were present. With regard to X-ray diagnosis, he failed to see how a small ulcer could be detected by these means, unless it were on one of the curvatures, or at the pylorus. Muscular spasm of parts of the stomach wall might produce irregularities in the shadow. Any abnormality in the shadow should be constantly present at several examinations before it could be relied upon as evidence of disease. Case took from 100 to 150 plates before giving a diagnosis, and Jordan also insisted on repeated examinations. In his last four cases there was a pronounced shadow after the bismuth meal and the history, which included hæmatemesis in each case, was typical. In only one was there a demonstrable ulcer at operation. All the patients, however, had adhesions binding the gall-bladder to the duodenum. In addition, in the actual ulcer case ileal stasis, with well-marked Lane's band, was present. In such cases the gall-bladder should be drained. The treatment of ulcer depended on its position. If the ulcer was localized on the body or the curvatures, excision without gastro-enterostomy should be performed. Ulcer was most often found near the pylorus, and here a modified pylorectomy was the operation of choice, with end-to-end union of the stomach and duodenum. If the ulcer was small, it could be safely and rapidly excised by the pentagonal autolytic compression stitch of Draper, which he had employed several times with success, especially in cases of perforation. He had performed gastro-enterostomy in several cases of perforation where infolding of the friable indurated ulcer mass threatened obstruction, but with increasing experience would employ it less and less. He had employed Pólya's operation not for duodenal ulcer, but for four cases of gastric carcinoma, where it was a much better operation than the usual one of partial excision with gastro-enterostomy. The direct union of the stomach stump to the side of the jejunum could be done more easily and quickly than the usual operation, and it also allowed of much wider excision of the stomach.

Gastro-enterostomy would probably cease to be done, except in cases of gastric cancer, which were not suitable for excision. Experiments on dogs had shown that they died very rapidly when there was any obstruction in the duodenum, and probably much of the misery many gastro-

enterostomy patients suffered, was due to some duodenal stasis and absorption of toxins.

Mr. Bernard Zwar said that Mr. Devine's paper had raised a number of most important points for discussion. These had been more or less fully discussed by previous speakers. He, however, thought that one of the most important was the one referred to by Dr. Stawell that evening, the one dealing with the ætiology of gastric and duodenal ulcers. This seemed to him most important, for unless the ætiology was understood and the causative factor of the disease could be dealt with, they were surgically limited to dealing with certain effects of it, which readily enough recurred, as emphasized by Mr. Syme.

Hyperchlorhydria, as far as the evidence went, seemed to play an important part in the causation, and so did toxicity, but it was hard to say what organs were to blame, and the evidence was, to say the least, confusing.

In regard to the toxic factor, Rosenow and Sandford had carried out a series of very careful investigations into the bacteriology of ulcers that had been resected. They found the almost constant presence of a streptococcus. Emulsions of this streptococcus, when injected into animals, showed a marked predilection for producing ulcers in the stomach and the duodenum. This evidence suggested that the streptococcus played a causative part, although there was little confirmatory evidence.

It has been his practice at the Melbourne Hospital to take cultures from the peritoneal exudate in all cases of gastric and duodenal perforations. No growth had been obtained from those taken from patients within a few hours of the perforation. In those taken later there had been a growth of *staphylococcus albus*. Similar difficulties were experienced in regard to the possibility of a diseased appendix occupying some causal relationship to gastric ulcer. In some hundred cultures taken in cases of acute appendicitis at the Melbourne Hospital there had been only one case in which he had obtained a growth of a streptococcus. If Rosenow and Sandford's results were accepted as evidence of proof, then the appendix was innocent, and was only being blamed for being found in bad company. Investigations in regard to the gall-bladder had given similar results; the colon bacillus was the organism most generally present in infective conditions of the gall-bladder.

The present knowledge regarding the cause of gastric and duodenal ulcer was in an extremely confused state, and until the exact cause had been ascertained it would only be possible to treat the effects of the disease, a point to be remembered in the after-care of patients operated upon. With regard to the part that gastric ulcers played in the occurrence of malignant disease, there has been a great divergence of opinion. Wilson and McCarthy had given a 71% frequency, whilst other authorities, such as Osler, had given a much lower rate. Dr. Zwar suggested that the evidence of Wilson and McCarthy had been misconstrued. He did not think that they had proved that 71% of gastric cancers commenced as gastric ulcer, but as ulceration which might have been malignant from the inception. The point remained that gastric ulcers did become malignant, and this must be considered in their surgical treatment. In regard to this, Payr's experience was of importance. He had found microscopical evidence of early malignancy in some 20% of resected chronic ulcers of the stomach.

Turning to the question of technique, he agreed with Mr. Syme as to the necessity of resecting ulcers, especially gastric ulcers. With reference to duodenal ulcers, he joined issue with Mr. Lambert that a gastro-enterostomy could safely be avoided, provided the suturing was properly carried out. In case of duodenal perforation, he had come across ulcers where, after the most careful suturing, the constriction at the site of ulceration was so great that it was necessary to do something to relieve it; if the patient's condition rendered resection out of question, a gastro-enterostomy was done. Some of the bad effects that followed this operation had been due to faulty technique; he was convinced of the importance of using an absorbable suture material, at least for the through-and-through stitch; a non-absorbable suture had been shown to favour the production of jejunal ulceration, as would have been expected. The acid stomach contents also favoured ulceration, and continued post-operative treatment by alkalies was essential.

He agreed with Mr. Kilvington that the physiological consideration should be the important factors in the choice of operation. Concerning the occlusion of the duodenum as supplementary to a gastro-enterostomy in cases of duodenal ulcer, he was of opinion that all such methods had proved unsatisfactory. He would expect that the method in which the rectus sheath was utilized, would not yield better results, and pointed out that its use necessitated mobilization of the duodenum. It would, therefore, be better to resect.

Dr. Sydney Pern said he was glad Mr. Zwar had referred to the rôle of the streptococcus, as he believed that gastric ulcers were due to infection from *pyorrhoea alveolaris*, and would be benefited by the treatment of this condition and by vaccines.

Dr. Gerald O'Day asked if there was any reliable evidence of a persisting cause for ulcer of the stomach. In this connexion any cases of recurrence after resection would be well worth recording.

Dr. Newman Morris referred to a case mentioned by Mr. Devine, in which the ulcer was high up in the posterior wall, near the cardiac end. The speaker had assisted Mr. Devine in that case, and on seeing the ulcer he had thought it would be impossible to excise it; but his opinion had been changed. He had found that no ulcer was too difficult for resection, provided the operator had the necessary skill and experience. The patient, a woman, was extremely emaciated, and although the difficulties of the operation were great, they were skilfully overcome, and the patient did well, and the after-effects were slight. That case alone should relieve all anxiety as to the excision in difficult cases, provided the excision was in skilful hands. With regard to the paper itself, it was of a very high standard. He considered it the best paper that had appeared in Australian journals, and it compared favourably, both in terseness and absence of padding, direct teaching and wealth of illustrations, with any of the best papers in British and American journals.

Dr. Frank Andrew mentioned the keen desire of speakers to restore the gastro-duodenal mechanism. One point of view seemed to have been lost sight of, that there was an acid neutralizing mechanism which had broken down. If this mechanism had proved incapable of neutralizing the acid, might it not be much better to do a wide Pólya's operation?

Mr. Devine, in reply, thanked the members for their generous criticism of his paper. The discussion had been most interesting and instructive, and had amply recompensed him for the work involved in the preparation of the article. He would not at such a late hour attempt to reply to all the speakers. He was glad that Dr. Stawell and other speakers had laid stress on the cause of ulcer. He had failed to find causes of hyperchlorhydria as frequently as other observers. Chronic ulcer was a sequel of acute ulcer. Excess of hydrochloric acid probably prevented the acute ulcer from healing, and brought it into the chronic stage; but the acid did not cause the primary ulcer. Probably the prime cause of ulcer would be found to be most often some local or general lowering of vitality in the stomach wall tissue. There was some lowly vitalized lymph tissue in the vicinity of the lesser curvature. The incidence of some intragastric infection on these devitalized areas was probably the secondary cause; consequently, he thought that the original cause of the primary ulcer had often been cured by the physician before the patient reached the surgeon. The surgeon was then only called upon to deal with a local condition.

Much had been said about the value of X-rays in the diagnosis of ulcer. What had greatly impressed him in his visit to Europe was the use made by the Continental surgeons of X-rays as an aid to gastric surgery. Röntgen ray shadow pathology was much more difficult than ordinary pathology. He felt that surgeons could enrich the knowledge in this branch of science, of which, at present, they were only on the threshold. He had many times seen crater formation on the screen, probably because this type of case was most likely to reach the surgeon.

Regarding the resection of ulcer, involving partial gastrectomy, he felt that, in certain cases, he might have wished to perform the ideal operation, but was often debarred from doing so by the fact that the patient could not tolerate it, and might die, which, after all, was fairly

important. He liked to have a safe working margin. Dr. Kilvington had suggested joining the cut end of the stomach to the second part of the duodenum. This operation, he thought, would be more severe, and the technique more difficult. He had regarded the duodenum, because of its powerful digestive secretion and its partial peritoneal covering, as not a very favourable segment of intestine for drastic surgical interference. He could not bring himself to resect ulcers of the duodenum in the cheerful manner of some of the speakers. For this reason he had used the transplant to bind the ulcer and remove it from the influence of the food and gastric juice. This also prevented a continuance of bleeding after gastro-enterostomy. From the case shown, this had lasted for three years. He did not use the transplant primarily for pyloric exclusion. Mr. Devine questioned whether the operation suggested for duodenal ulcer should be called a "modified Pólya operation." The major part of the stomach was resected in Pólya's operation. The operation suggested was really a device to obtain a perfect gastro-enterostomy, which, after all, has been of the greatest value in the cure of duodenal ulcer. Many of the gastro-enterostomy failures in this affection, he thought, could be debited to faulty technique. One of the advantages of the operation proposed was its simplicity and the avoidance of angles and kinks.

A meeting of the New South Wales Branch was held at the Pathological Laboratory at the Medical School of the University of Sydney on August 10, 1917. The programme consisted in demonstrations. Dr. R. Gordon Craig, the President, conducted the meeting.

Professor J. T. Wilson exhibited a series of frozen sections of the body of a woman who had died of a tumour of the brain extending to the accessory nasal sinuses. The sections, which had been most skilfully carried out, were made through the median and the mid-inguino-clavicular planes antero-posteriorly. The anatomical structures in their relations to one another were demonstrated, and Professor Wilson called attention to the pathological lesion in the brain, to another lesion in the scapula, and to a curious condition affecting a portion of the cerebellum. A mass of cerebellar tissue had been forced down behind the spinal cord into the cervical region of the theca. The attention of members was also directed to a series of frozen sections of an aboriginal woman. These sections had been prepared 20 years before, and were in an excellent state of preservation. In this body three distinct primary lesions had been discovered. There was an old hæmorrhage in the internal capsule; there was a hydatid cyst in the ventricular wall of the heart; and there was a tubercular cavity in the lung.

Professor Wilson then gave a demonstration with the aid of the epidiascope. A series of specimens preserved in ordinary museum jars were used first, and the pictures projected on to the screen. The series included a temporal bone, a brain in median section, the bones of the hand, and transverse sections of a new-born fœtus at various levels. In the next place microscopical slides were shown. Professor Wilson started with a low power magnification of sections through a four months' fœtus, and then demonstrated a series of sections of the human embryo in an early stage of development. One of the specimens had been presented to him by Dr. Gordon Craig. The series of microscopical pictures included sections of the fœtal *medulla oblongata* and more especially the *area postrema*. A large number of other pictures were shown, and Professor Wilson gave a short explanation on some interesting feature of each.

Professor Wilson stated that they were proud of their department and of the excellence of its resources. Many of the workers had acquired great skill as dissectors, and he wished more particularly to mention the name of Dr. Pott in this connexion. He invited the members to examine the dissections which were exposed to view, and stated that members of the New South Wales Branch of the British Medical Association would always be welcome to use his department and to benefit by the material it contained. He was convinced that they had a great deal of material which would be of value to practical surgeons and physicians. If it occurred to anyone that special dissections would be of use to medical practitioners, he would be delighted to have them provided.

Dr. R. Gordon Craig expressed his appreciation of the kindness and cordiality of Professor Wilson's invitation, and stated that he was sure that everybody present would join him in thanking the Professor. He regretted that he had been a medical student so long ago, when none of the advantages of a modern department of anatomy were available for teaching purposes. He thanked Professor Wilson especially for having confided in them the results of his more recent researches, and in having given them the benefit of much of his valuable knowledge of anatomical subjects.

Professor D. A. Welsh gave a demonstration on the spread of tubercle in the lungs. A very large number of museum specimens had been displayed for the purpose of illustrating his remarks. He stated that tubercle bacilli reached the lung by various channels. In the first place, it might travel by the blood stream. Embolic tubercle, however, was comparatively rare. In the next place, the infection might reach the lung through the air passages; while, in the third place, the infection might travel along the lymphatics. Infection through the air passages was nearly always acute, and resulted in a broncho-pneumonic invasion. It was usually characterized by caseation and very little more. He showed specimens of typical bronchopneumonia due to tubercle in children, and of acute bronchopneumonic phthisis in adults. The third form of invasion was much the most common. It might result in a typical lymphatic infection, or in a chronic phthisis. In the former, the process became generalized, and miliary nodules were scattered throughout the lung. The individual lesion took the form of an area of necrosis. As the condition became less acute, a more definite selection of site was seen. Specimens were shown in which there was a definitely peri-bronchial distribution. In the more chronic lesions the focus assumed the form of a fibro-cellular reaction, in addition to the necrosis. In the still more chronic forms there was a fibrous lesion with very little necrosis.

In chronic phthisis the tubercle bacilli entered the lung along the lymphatics, and were distributed through them. The type of lesion was determined by the balance between the virulence of the bacilli and the resistance of the tissues. In the one extreme there was a great deal of destruction, while in the other there was much fibrosis. The classical mode of invasion was obliquely upwards, through the upper lobe as far as the apex. The early lesions formed in the apex. In other cases the infection might pass directly outwards and the early foci would be found in the lower part of the upper lobe. The third channel of infection was along the lymphatics leading to the upper part of the lower lobe. Professor Welsh dealt with the structure of the lesion in chronic phthisis and the mechanism determining the two stages of consolidation and excavation. In regard to the second mode of invasion, he pointed out that this was not peculiar to tubercle bacilli, but might be followed in any secondary infection. In a case of sarcoma he showed that the cells followed this track. Other specimens of cancerous infiltration were also exhibited, to demonstrate that the spread took place along the peribronchial tissue. In the last place, he spoke of a subpleural distribution of tubercule.

Professor Welsh also gave a demonstration of a variety of malignant growths of the uterus and mammary gland. In one specimen he was able to point out that the malignant infiltration of the endometrium did not cause any enlargement of the organ, and that the increase in size was due to fibro-myomata. In a similar manner, cancer of the cervix in its early stage did not cause any enlargement of the organ. In regard to the mammary growth, he exhibited specimens for the purpose of illustrating the pinkish translucency, which he regarded as pathognomonic of carcinoma.

A hearty vote of thanks was accorded Professors Wilson and Welsh for their interesting and valuable demonstrations.

MEDICO-POLITICAL.

At a meeting of the New South Wales Branch held on August 31, 1917, at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, the following resolutions were carried:—

"That Article 34 of the Articles of Association, which reads as follows, namely:—

"'34. Any member may be expelled from the Association by a resolution of the Council if carried by three-fourths of the members present, subject to confirmation by a General Meeting, and he shall thereupon cease to be a member, and shall not be eligible for re-election. Twenty-eight days' notice of the intention to propose such resolution shall be given to any member affected thereby.'

be amended by the omission therefrom of the words

'and shall not be eligible for re-election.'"

1. "That no member shall receive commission from or share profits with any chemist, or, except with the sanction of the Council, have any pecuniary interest in any shop for the sale of drugs."

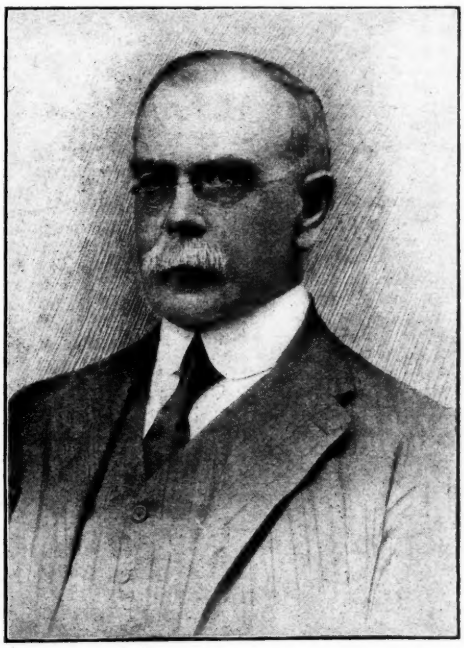
2. "That no member shall use any secret formula in prescribing or make it a condition that any medicine or appliance prescribed by him shall be dispensed or supplied at any particular place, but nothing herein contained shall be deemed to prohibit the use of special formulæ in Hospital or Contract Practice prescribing."

3. "That no member shall accept from or pay commission to any Insurance Agent."

Obituary.

MICHAEL ULICK O'SULLIVAN.

The medical profession and community in general have suffered a great loss by the death of Michael Ulick O'Sullivan, which took place in the latter part of June, in Melbourne. Forty years before he produced evidence to the examiners of the Royal Colleges of Physicians and Surgeons of Edinburgh of being possessed of sufficient knowledge to justify his admission to the medical profession. There was little indication in those days of the eminence to which he was to rise at a later date. Between three and four years after qualifying he left Scotland for Australia, and, arriving in Victoria in 1881, he selected Numurkah for the purpose of carrying on a general practice. According to his own estimate, formed years afterwards, his gynæcological practice was as faulty as gynæcological practice was in those days. He often said that he must have caused endometritis in many of his patients in whom he dilated the cervical canal. Two years after starting in practice, he sought relief in Melbourne for a severe tri-facial neuralgia, and while under treatment for this condition he commenced a metropolitan practice. In the same year he changed his social state by taking a life-partner to share his joys and woes. Two years later he relinquished the practice at Numurkah and took up his abode in Collins Street, Melbourne. It was during these early years that he gradually raised his practice in gynæcology from the level of that of the average practitioner to a height which had probably never been reached in Australia before. His skill in operating and his extraordinary capability in divining the pathological condition of the various affections of women who sought his aid, forced his colleagues to recognize his ability and to give him an opportunity of developing his skill and knowledge. In 1887 he was elected to the Obstetrical Department of the Women's Hospital, Melbourne. He held this post until 1891, when he was elected an Honorary Surgeon of the Gynæcological Department of the same institution. He was also appointed Gynæcological Surgeon at St. Vincent's Hospital. A little later he was elected Chairman of the Staff of the Women's Hospital. The strain entailed by the zealous discharge of his hospital duties and by the heavy work of a busy private practice was a severe one, and under its load his health suffered not a little. Dr. Felix Meyer informs us that he was not to be persuaded to take long holidays, and that the "labour he delighted in physicked his pain." After some years, Michael Ulick O'Sullivan had cause to resent some interference with his work at St. Vincent's Hospital, and consequently resigned from the Staff. The loss to the Hospital was irreparable. At the Women's Hospital he undertook to ban craniotomy, and introduced Cæsarean section in its stead. It was he who introduced to the medical profession in Victoria the modern methods of plastic repair of the perineum and cervix, the conservative procedures for the rectification of misplacement of the uterus and kidney, and a variety of other pervaginal procedures. His operative work was brilliant, resourceful and free from indecision, and he never flinched from difficulties. He had all the qualities of a great surgeon. There was a finish and neatness about his operations that belonged to a master of technique. Those who worked with and under him, describe both the man and his work as masterful. Dr. Ralph Worrall has expressed the opinion that some of the operations which he had seen Michael O'Sullivan perform, were among the most perfect he had ever witnessed.



During the busiest years of his career he found little time for relaxations of any kind. For a few years he graced the table of the Melbourne Beefsteak Club, a literary coterie, and delighted the members by his half-concealed wit at their monthly dinners.

Indifferent health became bad health, and this compelled him to retire from the staff of the Women's Hospital in 1914. From that time onwards he lost ground, and eventually succumbed during an attack of angina pectoris.

He was a man of strong, striking personality, who, beneath a serious exterior, at times not far removed from sternness, concealed a sense of humour and a kindliness of nature quite unsuspected by those who did not know him well. He was fearless and outspoken in the expression of his opinions. He leaves two sons, members of the medical profession. The elder, Major Richard Francis O'Sullivan, is at present acting as Assistant to the Director-General of Medical Services in Australia, and will succeed to his father's practice. The younger, Captain Michael Brendan O'Sullivan, is on active service "somewhere in France." The precept of their illustrious father should help them to a considerable extent to maintain the high ideals and fine tradition associated with the name of O'Sullivan.

Vital Statistics.

TASMANIA.

The Government Statistician has issued the vital statistics of Tasmania for the month of June, 1917.

Hobart and Launceston.

In the urban districts of Hobart and Launceston 150 births were registered during the month. The number of births is less than the average for the corresponding month in the previous five years. The birth-rate, expressed as an annual rate, was 28.08 per 1,000 of population. The birth-rate was slightly higher in Hobart than in Launceston.

The number of deaths registered was 102, of which 33,

or 32.35%, took place in public institutions. The total number of deaths of persons usually resident in the city or suburbs was 95. The gross death-rate, expressed as an annual rate, was 19.08 per 1,000 of population, while the corrected rate was 17.76. Of the 105 persons who died, 11 were infants under one year of age. The infantile mortality was therefore 153 per 1,000 births.

There were 20 deaths from diseases of the cardio-vascular system, 15 of which were caused by organic diseases of the heart, and five by cerebral hæmorrhage. Of the 20, 13 took place in Hobart. Tuberculosis killed six persons, diphtheria two, pneumonia eight, diarrhœa and enteritis one, influenza one and acute nephritis one. There were eight deaths from cancer and one from Bright's disease. Three deaths due to puerperal septicæmia were recorded during the month.

Country Districts.

The number of births registered in all country districts during the month was 280, and the birth-rate was equivalent to an annual rate of 24.72. The highest birth-rate was recorded in the North-Western District and the lowest in the South-Western district. The number of deaths registered was 58, and the death-rate expressed as an annual rate, 5.16. The death-rate in June, 1915, was 8.28, and in June, 1916, 8.16. The lowest death-rate was recorded in the North-Eastern District. Of the 49 deaths, nine were due to general diseases, including four from tuberculosis, four from cancer and one from diabetes.

POST-GRADUATE INSTRUCTION.

For several years the need of establishing post-graduate courses at the Medical School of the University of Sydney was recognized, and various attempts were made to formulate a scheme for the realization of this idea. As little progress had been made by the beginning of 1913, Dr. H. H. Schlink, who was then Medical Superintendent of the Royal Prince Alfred Hospital, after consultation with the Dean of the Faculty, drew up a memorandum on the subject. We publish the memorandum in full, as it appears to us be a practical basis on which discussion can be inaugurated, and on which an acceptable scheme could be devised and put into effect. The memorandum was duly submitted to the Faculty of Medicine, and, although it received the support of its members, was allowed to drop for various reasons.

The matter has recently been raised again by Dr. J. Leon Jona. It must be admitted that post-graduate courses should be established both in Melbourne and in Sydney. We are of opinion that a post-graduate association for the whole of Australia would be able to supply the needs of medical practitioners. No difficulty need be experienced in adapting Dr. Schlink's scheme to include the whole Commonwealth. We therefore invite members to express their views, both on the general question and on the details.

University of Sydney.

Medical Post-Graduate Association.

A.—Introduction.

The great value and often the necessity for post-graduate study is becoming each year more generally recognized, as evidenced by the increasing number of inquiries from graduates concerning its introduction. The Dean of the Faculty moved in the matter early in 1912, and a committee was appointed, but has made little or no progress, and the object of the present memorandum is to put before the Faculty some definite scheme (1) for the formation of a Post-Graduate Association, and (2) for the establishment of an Annual School at the earliest possible date.

In most medical centres it is now the exception not to find one or more annual courses for qualified men, and it is high time the medical centre of New South Wales and Queensland ceased to remain an exception. In addition, however, to the establishment of Annual Schools, the objective should be the formation of a Post-Graduate Association, with the purpose of creating facilities and increasing those already existent for study by qualified men throughout the whole of the year. This dual objective will provide not only for schools of collective study at definite periods of the year, but will also make provision for individual study by members of the Association at any period of the year.

As the Association progresses, a third objective should be added to the foregoing, namely, the establishment of Post-Graduate Extension Schools, for the purpose of conducting short courses of instruction in the various country centres, and thus giving to those practitioners who are unable to leave their districts, the inestimable advantage of collective post-graduate work.

B.—Objects of the Association.

1. To raise the standard of medical education.
2. To assist graduates desirous of specializing or working for higher degrees.
3. To enable country and city practitioners to get abreast with the results of modern research, and to get into touch with current thought in medicine and surgery.
4. To throw open to the general body of medical practitioners all the valuable, most useful and attractive clinical material of the public hospitals.

C.—Membership of the Association.

Arrangements should be made with the directors of the leading hospitals, so as to enable the Association to issue an attendance ticket, which will admit the holder to all the ordinary clinical classes provided in these institutions. Thus a medical man, armed with the Association's hospital ticket, would be free to attend any of these hospitals, listen to the clinical instruction in the wards or out-patients' departments, and attend or assist, if asked, in the operating theatres and post-mortem room. In point of fact, he would become, to all intents and purposes, one of the students, and have the same rights as if he were once more a student back within the familiar walls of his old hospital. The hospital attendance tickets could be made either temporary or perpetual, according to the amount paid. One of the great advantages of this co-operative attendance ticket is the fact that it enables a man desirous of paying attention to one particular branch of study to follow it up every day at one or other of the hospitals, and thus avoid enforced idleness, which would occur if he were only privileged to attend one hospital. Further, he can compare the methods and technique of the various surgeons practising his speciality. There should be an entrance fee for members, apart from the hospital ticket fees, as some money will be required for organizing purposes. The Association might charge the one fee and deduct a certain amount from the fees given to the participating hospitals.

D.—Control and Organization of the Association.

The Committee appointed in 1912 by the Senate of the University, and composed of representatives from the leading hospitals of Sydney, has done little or nothing towards the establishment of the school, and it looks as if failure will be the result if left in its hands. The body most suited to conduct the school successfully is surely the Faculty of Medicine. The organization and detail could be left in the hands of a medical secretary.

E.—Post-Graduate Schools.

1. Time.—As a beginning the Association should hold a school annually, and as time goes on, even two schools might be held in the year. The periods of the year most suitable are those corresponding with the hospital recesses, during which time the undergraduates are away from the wards and the entire institution can then be reserved for graduates attending the school. That most suitable, on account of its length, is the August recess, and it is recommended that a school be held during that month in 1918.

2. Duration.—This year the duration should not be too long, otherwise it might interfere with the attendance of graduates, as the Medical Congress is to be held in February, 1914. It is suggested that two, or at the most three, weeks be adopted.

3. Place.—

(*a*) Laboratory work and systematic lectures should be conducted at the Medical School, both on account of the accommodation and the efficiency and amount of the apparatus available.

(*b*) Ward work and demonstrations should be conducted at all of the leading hospitals that adopt the Association's co-operative attendance ticket. It would be more workable to confine the hospital work for the first year to the two clinical schools, namely, the Royal Prince Alfred Hospital and the Sydney Hospital and to include the others as the scheme progresses.

(*c*) Reading Work.—Permission should be gained for members to make use of the libraries, both at the University and the British Medical Association's rooms.

4. Curriculum.—This, of course, is a matter of detail, and must be worked out with the utmost care and patience, so that, once the subjects in which lectures and demonstrations are to be held are decided upon, a time-table of work can be compiled which will suit all requirements, avoid clashing and allow the limited time available to be used to the greatest advantage. However, it will be of assistance to suggest a list of subjects in which lectures and demonstrations might be given, and from which the most suitable might be selected, and further to indicate roughly times at which each might take place.

(*a*) Subjects.—The following is a list of subjects in which courses of lectures or demonstrations may be delivered:—

1. Medicine.
2. Surgery.
3. Gynæcology.
4. Midwifery.
5. Ophthalmology.
6. Rhinology.
7. Laryngology.
8. Otology.
9. Dermatology.
10. Orthopædics.
11. Pædiatrics.
12. Venereal Diseases.
13. Tropical Diseases.
14. Urogenital Surgery.
15. Anæsthesia.
16. Intestinal Surgery.
17. Operative Surgery.
18. Clinical Pathology.
19. Hæmatology.
20. Vaccine Therapy.
21. Cyto-diagnosis.
22. Surface Anatomy.
23. Bio-chemistry.
24. Cystoscopy.
25. Ureteral Catheterization.
26. Sigmoidoscopy.
27. Bronchoscopy.
28. Retinoscopy.
29. Post-Mortem Examinations.

(*b*) Time-Table.—The day's work should commence at 7 a.m. with operations, and continue on until 9 a.m., when the systematic lectures, of not longer than one hour's duration, should be delivered. From 10 a.m. until 1 p.m. demonstrations should be held in the wards and theatres of the two participating hospitals, and the afternoons, 2 to 4.30 p.m., should be devoted to accompanying the honorary surgeons and physicians on their rounds and attending the various out-patient and special departments. At 4.30 all students should meet as many members as possible of the honorary and resident staffs at consultations on interesting cases. Attending practitioners should be invited to bring with them any intricate cases which they have come across in their local work. By this means not only would the patient and practitioner whose case it is, benefit, but the discussion would prove useful to all. These consultations should be held at the hospitals.

5. Size of Classes.—Of course, an unlimited number of students may attend the systematic courses of lectures, but if the fullest advantage is to be obtained from the demonstrations the classes should be limited in number.

6. Fees.—The first expense to the intending student is, of course, his membership ticket, which allows him to attend the various hospitals co-operating with the Association, and gives him the privileges of accompanying the honorary or resident medical officers on their rounds, and of attending at the theatres and out-patient and special departments. As mentioned before, the membership ticket can be temporary or perpetual. It is suggested that a temporary ticket should be £5 5s., and a perpetual £10 10s., plus £1 1s. entrance fee to the Association. Of course, in the case of any graduate who has already a perpetual ticket for any particular hospital, the Association should endeavour to enter into arrangements with the other hospitals on reciprocal lines, so that a perpetual ticket for one hospital makes him eligible for attendance at all hospitals co-operating with the Association. Thus the only expense for a graduate who has a perpetual ticket would be the Association's entrance fee of £1 1s. The next expense would be the fees for any systematic or special demonstrations which he elects to attend, and I would suggest that at first these be made very reasonable—£1 1s., or at the most £2 2s., per student.

7. Residence While Attending School.—The Association should arrange with one, or if necessary two, of the residential colleges, so that graduates attending the school might reside there at a reasonable cost. This should be acceptable to the Fellows of the College, for it will put them to very little inconvenience, as the undergraduates, with few exceptions, leave College during the August recess. This suggestion need only be mentioned for its great advantages to be at once appreciated.

8. Miscellaneous.—An inaugural address should be delivered at the opening of the school by the Dean, and the closing of the school should be marked by a social function, such as a dinner. Special concessions might be applied for from the Railway Commissioners in the case of country practitioners attending the school.

F.—Post-Graduate Work Other Than Schools.

The Association should endeavour to induce the hospitals to allow its members to be attached to the various out-patient departments for a period not exceeding three months, and they might even be permitted into the wards and special departments, such as the pathological and X-ray departments. The graduate would not only be gaining knowledge for himself, but he would be of great use and assistance to honorary medical officers in these departments. If this concession could be obtained, then a member of the Association could at any time during the year arrange through the Organizing Secretary to visit the city and do several months' practical work at one of the hospitals.

G.—Post-Graduate Extension School.

Later the Association could indulge in a more spirited policy, and act as a scientific missionary, by holding throughout the year at various country towns short extension schools. The Association would send various lecturers and demonstrators, and the local hospitals could be made the headquarters of the school, which would last for a period of one week or more. In this way the country practitioner would have brought to his door the latest methods of diagnosis and treatment, and many an obscure case would be unravelled at the consultations or discussions carried out in the presence of the Association's lectures. It would also help to develope more harmonious relations amongst the various medical men of the district.

H.—Conclusion.

The preceding is simply a rough outline of a scheme for the establishment and furtherance of post-graduate study, and will, it is hoped, serve as a preliminary basis for discussion by the members of the Medical Faculty.

20th May, 1913.

Correspondence.

PRURITUS VULVÆ.

Sir,—In answer to "Enquirer" in your issue of 18th ult., may I be allowed to suggest that a treatment which I have found efficacious in simple cases of *pruritus vulvae* consists in the local application of a paste composed of bismuth subnitrate and glycerine frequent to the *labia majora* and *minora* and the vagina gently packed with gauze saturated with the same preparation. This should be done frequently, after douching with alum, or hydrastis.

Much, if not all, depends upon the general condition, of course, and, as well as local symptoms, which ought to reveal the cause of the pruritus. Tincture of Indian hemp in 0.3 c.cm. (five minim) doses, with tincture of valerian and gelsemium are, in my practice, never omitted from my treatment of simple pruritus, *i.e.*, pruritus with undiscoverable cause, and well merit a fair trial.

Yours, etc.,

JAS. WEIR.

Brisbane, August 29, 1917.

CORRIGENDUM.

Dr. E. H. Binney calls our attention to a mistake in his letter on the treatment of fractures in last week's issue (page 195). The sentence "to apply this to adults and combine it with extension, the weight and pulley would have to work over the *foot* of the bed" should read "to apply this . . . . over the *head* of the bed."

Medical Appointments.

During the absence on leave of Dr. Edward Robertson, Dr. John Johnston has been appointed Acting Permanent Head, Department of Public Health, and Acting Medical Inspector of the Board of Public Health, Victoria.

Dr. Frank Reginald Featherstone has been appointed Public Vaccinator for North-Eastern District, Victoria, during the absence on military service of Dr. John Harris.

Dr. Frederick Favid Jermyn has been appointed Public Vaccinator for South-Western District, Victoria, Dr. John Pollock having resigned.

During the absence on military service of Dr. David P. Greenham, Dr. Maurice Matenson has been appointed Acting Public Vaccinator for North-Eastern District, Victoria.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
TASMANIA. (Hon. Sec., Beltive, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	Brunswick Medical Institute. Bendigo Medical Institute. Prahran United F.S. Dispensary. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute. Warwick Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 8 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide.
WESTERN AUSTRALIA. (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance Association and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phœnix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Penrith, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

Diary for the Month.

Sept. 11.—Tas. Branch, B.M.A., Council and Branch.
Sept. 11.—N.S.W. Branch, B.M.A., Ethics Committee.
Sept. 13.—Vic Branch, B.M.A., Council.
Sept. 13.—N.S.W. Branch, B.M.A., last day for nomination of two Candidates for election of Federal Committee.
Sept. 14.—N.S.W. Branch, B.M.A., Clinical.
Sept. 14.—S. Aust. Branch, B.M.A., Council.
Sept. 18.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Sept. 19.—W. Aust. Branch, B.M.A., Branch.
Sept. 19.—South Sydney Med. Assoc. (N.S.W.).
Sept. 21.—Q. Branch, B.M.A., Council.
Sept. 25.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Sept. 26.—Vic. Branch, B.M.A., Council.
Sept. 27.—S. Aust. Branch, B.M.A. Branch.
Sept. 28.—N.S.W. Branch, B.M.A., Branch (Ordinary). Election of two Members of the Federal Committee.
Sept. 30.—Vict. Branch, B.M.A., Last Day for Election of Two Members to Federal Committee.

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.